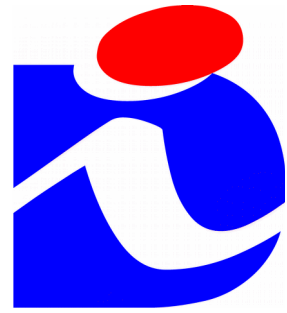


Czech Republic



The Rail Safety
Inspection Office

NIB ANNUAL REPORT 2015

according to Article 23(3) of Directive 2004/49/EC

The Rail Safety Inspection Office

Czech Republic

September 2016



PREFACE TO THE REPORT

A National Investigation Body operates in the Czech Republic – The Rail Safety Inspection Office – conducting independent investigation of the causes and circumstances of railway accidents and incidents according to Directive 2004/49/EC, the principles and requirements of which have been implemented into the national legislation. The objective of the investigation of the causes and circumstances of railway accidents and incidents is to increase the safety of railways.

This Annual Report is an annual report issued by the National Investigation Body of the Czech Republic, The Rail Safety Inspection Office, for 2015, pursuant to Art. 23(3) of Directive 2004/49/EC. It comprises information regarding:

- the National Investigation Body
- the system of investigation of railway accidents and incidents
- the investigations of accidents and incidents completed in 2015
- the safety recommendations issued



CONTENTS

PREFACE TO THE REPORT.....	I
1 INTRODUCTION TO THE INVESTIGATION BODY.....	1
1.1 Legal framework.....	1
1.2 Role and Mission.....	1
1.3 Organisation.....	2
1.4 Organisational flow.....	3
2 INVESTIGATION PROCESSES.....	4
2.1 Cases to be investigated	4
2.2 Institutions involved in investigations.....	4
2.3 Investigation process or approach of the IB.....	4
3 INVESTIGATIONS.....	6
3.1 Overview of investigations completed in 2015, identifying key trends.....	6
3.2 Investigations completed and commenced in 2015.....	6
3.3 Research studies (or Safety Studies) commissioned and completed in 2015.....	8
3.4 Summaries of investigations completed in 2015.....	8
3.5 Comment and introduction or background to the investigations.....	9
3.6 Accidents and incidents investigated during last five years (in 2011–2015).....	10
4 RECOMMENDATIONS.....	11
4.1 Short review and presentation of recommendations	11
4.2 Recommendations issued in 2015.....	13

ANNEXES

Summaries of investigations completed in 2015



1 INTRODUCTION TO THE INVESTIGATION BODY

1.1 Legal framework

The process of the implementation of Directive 2004/49/EC into the national legislation of the Czech Republic was completed on 1st July 2006 by Act 266/1994 Coll., on Railways, as amended, and the subsequent issue of implementing Decree 376/2006 Coll., on the System of Safe Railway Operation and Railway Transport Operation and Procedures Following Railway Accidents and Incidents.

Directive 2009/149/EC amending Annex I of Directive 2004/49/EC was implemented into the national legislation on 30th August 2010.

Accidents and incidents are further divided into the following categories, reflecting their nature and consequences:

- serious accidents
- accidents
- incidents

The national legislation of the Czech Republic orders infrastructure managers and railway undertakings to investigate the causes and circumstances of railway accidents and incidents.

The accident and incident investigation performed by The Rail Safety Inspection Office is independent of any other party and independent of the investigation conducted by other bodies, especially police investigation and the investigation of the causes and circumstances of accidents and incidents conducted by infrastructure managers or railway undertakings.

1.2 Role and Mission

The National Investigation Body was established in the Czech Republic on 1st January 2003. The mission is to guarantee independent investigation of the causes and circumstances of railway accidents and incidents. The national legislation of the Czech Republic also authorizes the National Investigation Body to investigate accidents and incidents within trams, trolleybuses and cable-ways, because all these kinds of transport are included in the same legislation regime as the railways.

The main goal of the Office's work is to prevent the occurrence of accidents and incidents. Therefore, the Rail Safety Inspection Office:

- investigates the causes and circumstances of rail accidents and incidents,
- supervises investigations performed by infrastructure managers and railway undertakings,



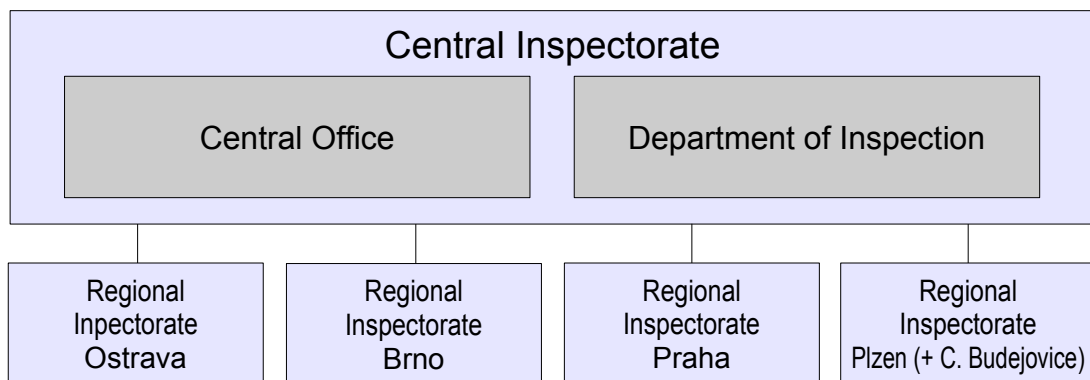
- detects deficiencies compromising the safety of rail infrastructure and rail transport,
- evaluates development trends in accidents and incidents within the rail system and takes measures to improve the situation,
- issues safety recommendations to railway undertakings, infrastructure managers, to the National Safety Authority or other authorities and parties.

1.3 Organisation

On 1st January 2003, the National Investigation Body – The Rail Safety Inspection Office – was established in the Czech Republic pursuant to the provisions of Act 77/2002 Coll. The Rail Safety Inspection Office is a national body investigating the causes of railway accidents and incidents independently of any other party and performing preventative inspections of railway safety. As an investigation body it is independent of any infrastructure manager, railway undertaking and regulatory body. The competences of The Rail Safety Inspection Office include:

- railways (main lines, regional lines, sidings, underground)
- tram lines
- trolleybus lines
- cable-ways

The Rail Safety Inspection Office has a total of 49 employees in five cities of the Czech Republic (Ostrava, Brno, Praha, Plzen, Ceske Budejovice). It comprises of the Central Inspectorate and four regional inspectorates covering the area of the entire country. The Central Inspectorate consists of The Central Office and The Department of Inspection.



The Central Office plays supportive role for the Inspector General and the whole structure of The Rail Safety Inspection Office. It provides human-resource management, economic, IT and legal services and public relations.

The Department of Inspection maintains accident investigation and preventative safety inspection systems, including the co-ordination of the regional inspectorates' activities.



The department also manages staff training and mediates communication with EU bodies.

Regional Inspectorates investigate the causes of rail accidents and incidents with the aim of enabling lessons to be learned for improving the safety of railways. They also perform safety inspection focusing on accident and incident prevention.

1.4 Organisational flow

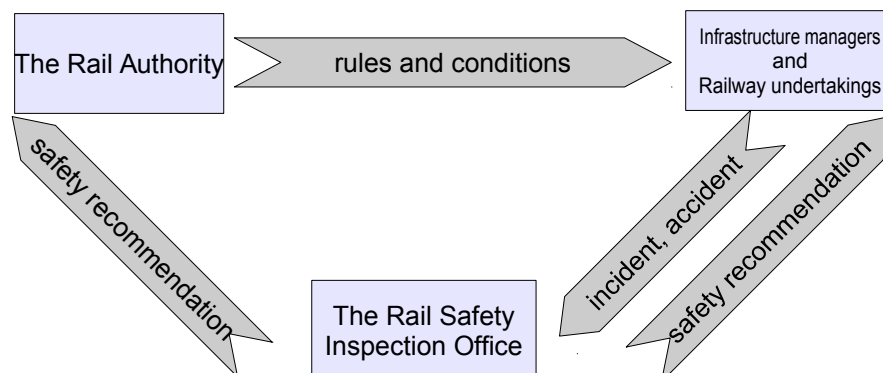
The structure of railway sector in the Czech Republic and relationships among the parties involved are defined in Act 266/1994 Coll., on Railways, as amended, and its implementing regulations. The legislation applies to the following transport systems:

- railways (main lines, regional lines, sidings, underground)
- tram lines
- trolleybus lines
- cable-ways

The most important bodies in the railway sector include the Czech Ministry for Transportation, The Railway Office and The Rail Safety Inspection Office. The Czech Ministry for Transportation is in charge of the national railway legislation, including implementation of the EU railway legislation. The Railway Office is the National Safety Authority carrying out certification and regulation of railway and railway transport operation, according to the national legislation. The Rail Safety Inspection Office is the National Investigation Body independent of any party in the railway sector.

All these authorities are involved in the system of maintaining and improving safety of railways and railway transport:

- **The Czech Ministry for Transportation** sets the framework by developing railway legislation.
- **The Rail Safety Inspection Office (NIB)** investigates railway accidents and incidents and issues safety recommendations to The Railway Office.
- **The Rail Authority (NSA)** sets and adjusts safety rules for infrastructure managers and railway undertakings.





2 INVESTIGATION PROCESSES

2.1 Cases to be investigated

The national legislation of the Czech Republic orders the National Investigation Body, The Rail Safety Inspection Office, in accordance with European principles, to investigate the causes and circumstances of serious accidents on main and regional lines, border railways and sidings. In addition, The Rail Safety Inspection Office may investigate, in cases defined by the respective law, other occurrences in the following cases:

- serious accidents regarding underground, trams, trolleybuses and cable-ways
- accidents and incidents on all types of guided transport

When making decision whether to investigate or not, The Rail Safety Inspection Office takes into account the above mentioned legal requirements, as well as possibility to learn safety relevant lessons from the accident or incident.

2.2 Institutions involved in investigations

Following the occurrence of railway accident or incident, various parties may launch several independent investigations, depending on the occurrence's nature and consequences:

- **Infrastructure manager or railway undertaking** identifies the causes and circumstances of accident or incident, focusing on the drafting of preventative measures and the proposal of responsibility for the occurrence.
- **The Rail Safety Inspection Office** investigates the causes and circumstances of accident or incident with a focus on the determination of the causes and issue of preventative safety recommendation.
- **Czech Police** investigate accident or incident with the aim of defining responsibility for the committing of offenses or criminal acts.

2.3 Investigation process or approach of the NIB

The objective of the investigation of the causes of railway accidents and incidents is to gain knowledge for the prevention of accidents and incidents, minimize the consequences and increase the safety of railways.

Investigation performed by the National Investigation Body of the Czech Republic, The Rail Safety Inspection Office, focuses on the following aspects of each occurrence:

- independent investigation of the causes and circumstances of accident or incident (serious accidents and selected accidents and incidents only)
- meeting legal requirements for procedures following railway accident or incident by infrastructure manager and railway undertaking



- verification of the correctness and completeness of the procedures followed by infrastructure manager or railway undertaking when identifying the causes and circumstances of an accident or incident, in accordance with the national legislation.

When notified about the occurrence of accident or incident by an infrastructure manager or railway undertaking, The Rail Safety Inspection Office will decide whether it will immediately go to the accident-site or not. At the accident-site The Rail Safety Inspection Office will launch an independent investigation or just verifies the steps performed by infrastructure managers and railway undertakings involved.

If The Rail Safety Inspection Office launches an investigation, it will notify The European Railway Agency within seven days. The investigation of accident or incident may be launched immediately after the occurrence and/or later, in reaction to specific circumstances.

The Rail Safety Inspection Office will publish the conclusions of its investigation in Investigation Report, the structure of which is based on the requirements of Directive 2004/49/EC. If the accident or incident occurred without any violation of legislation or internal regulations of infrastructure manager and/or railway undertaking, The Rail Safety Inspection Office issues safety recommendation with the aim of preventing reoccurrence of the accident or incident. Safety recommendation is issued also if there are other findings relevant for the safety.



3 INVESTIGATIONS

3.1 Overview of investigations completed in 2015, identifying key trends

Trends of completed investigations (last column of the table) are calculated as difference to previous year (2014).

Type of accidents investigated	Number of accidents	Number of victims		Damages in € (approx.)	Trends in relation to previous year
		Deaths	Ser.injury		
Collisions	7	0	0	583.705,-	+250 %
Derailments	4	0	0	2.123.872,-	-33 %
LC-accident	8	5	9	6.306.600,-	+33 %
Fire in RS	0	0	0	0	+0 %
Acc. to person	2	1	0	3.279,-	+0 %
Other	6	0	1	1.185.440,-	-45 %

3.2 Investigations completed and commenced in 2015

Investigations completed in 2015

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Completed (date)
11.10.2013	Accident to person caused by RS in motion: in Karlov pod Jestedem station	i	15.01.2015
13.03.2014	Trains collision: between Decin Prostedni Zleb – Decin hlavni nadrazi stations	i	19.08.2015
28.03.2014	Other: SPAD in Praha hlavni nadrazi station	i	19.06.2015
12.04.2014	Other: Collision of rolling stocks during shunting operation in Praha Liben station with consequent derailment	i	20.03.2015
23.04.2014	Level-crossing accident: km 361,191 in Vsetaty station	i	19.06.2015
19.06.2014	Other: Unauthorised train movement other than SPAD in Dolni Berkovice station	i	17.12.2015
08.07.2014	Trains collision: in Ceska Trebova station with consequent derailment	i	28.05.2015
11.07.2014	Level-crossing accident: km 6,006 between Brno Chrlice – Brno hlavni nadrazi stations	i	04.03.2015
26.07.2014	Level-crossing accident: km 80,206 between Jince - Bratkovice stations	i	07.09.2015
27.07.2014	Other: SPAD in Kolin station	i	30.09.2015



Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Completed (date)
30.08.2014	Level-crossing accident: km 77,275 between Slatinany – Chrudim stations	i	29.04.2015
09.09.2014	Accident to person caused by RS in motion: The city of Ostrava – tram stop Horni	ii	14.05.2015
11.11.2014	Trains collision: between Petrovice u Karvine – Odbocka Zavada stations	i	01.06.2015
16.11.2014	Train collision with an obstacle: in Hrusovany u Brna station	i	30.11.2015
21.11.2014	Train derailment: in Ostrava hlavni nadrazi station	i	11.08.2015
28.11.2014	Train derailment: in Bohumin station	i	31.08.2015
01.12.2014	Train derailment: between Pacejov – Horazdovice predmesti stations	i	27.05.2015
15.12.2014	Trains collision with an obstacle: in Prosenice station	i	04.11.2015
28.01.2015	Trains collision with an obstacle: between Ponikla – Hrabacov stations with consequent derailment	i	20.11.2015
19.02.2015	Other: Unauthorised movement of shunting operation other than SPAD in Paskov siding with consequent derailment	ii	16.09.2015
27.02.2015	Accident to person caused by RS in motion: in Cernotin stop	i	10.12.2015
24.03.2015	Level-crossing accident: km 47,208 between Obratan – Chynov stations	i	10.08.2015
04.05.2015	Trains collision with an obstacle: in Hanusovice station with consequent derailment	i	04.12.2015
25.05.2015	Level-crossing accident: km 4,740 between Velke Pavlovice – Kobyli na Morave stations	i	25.09.2015
24.06.2015	Level-crossing accident: km 8,985 between Sudomerice nad Moravou – Straznice stations	i	01.12.2015
29.06.2015	Train derailment: in Prosenice station	i	29.12.2015
22.07.2015	Level-crossing accident: km 245,044 in Studenka station	i	15.12.2015

Basis for investigation: i = According to the Safety Directive, ii = On national legal basis (covering possible areas excluded in Article 2, §2 of the Safety Directive), iii = Voluntary – other criteria (National rules/regulations not referred to the Safety Directive).



Investigations commenced in 2015

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis
17.09.2014	Trains collision: in Praha Vysehrad station with consequent derailment	i
16.11.2014	Train collision with an obstacle: in Hrusovany u Brna station	i
30.12.2014	Trains collision: in Poricany station with consequent derailment	i
11.01.2015	Trains collision with an obstacle: between Rozna – Nedvedice stations	i
28.01.2015	Trains collision with an obstacle: between Ponikla – Hrabacov stations with consequent derailment	i
16.02.2015	Trains collision: in Bakov nad Jizerou station	i
19.02.2015	Other: Unauthorised movement of shunting operation other than SPAD in Paskov siding with consequent derailment	ii
27.02.2015	Accident to person caused by RS in motion: in Cernotin stop	i
24.03.2015	Level-crossing accident: km 47,208 between Obratan – Chynov stations	i
28.03.2015	Trains collision: between Velke Zernoseky – Litomerice dolni nadrazi stations with consequent derailment	i
04.05.2015	Trains collision with an obstacle: in Hanusovice station with consequent derailment	i
25.05.2015	Level-crossing accident: km 4,740 between Velke Pavlovice – Kobyli na Morave stations	i
24.06.2015	Level-crossing accident: km 8,985 between Sudomerice nad Moravou – Straznice stations	i
29.06.2015	Train derailment: in Prosenice station	i
03.07.2015	Train derailment: in Horni Cerekev station	i
14.07.2015	Trains collision with an obstacle: in Praha Masarykovo nadrazi station with consequent derailment	i
22.07.2015	Level-crossing accident: km 245,044 in Studenka station	i
04.08.2015	Trains collision: in Horazdovice predmesti station with consequent derailment	i
14.08.2015	Level-crossing accident: km 94,356 between Uhersky Ostroh – Ostrozska Nova Ves stations	i
07.09.2015	Level-crossing accident: km 8,971 in Sluknov station	i
09.09.2015	Accident to person caused by RS in motion: in Golcuv Jenikov station	i
12. 09.2015	Trains collision with an obstacle: in Usti nad Orlici station	i
14.09.2015	Train derailment: between Vlkaneč – Golcuv Jenikov stations	i



30.09.2015	Accident to person caused by RS in motion: in „Doly Bílina – upravna uhli Ledvice“ siding	ii
30.10.2015	Trains collision: in Rehlovice station	i
03.11.2015	Other: Collision of rolling stocks during shunting operation in Ceska Trebova station with consequent derailment	i
08.11.2015	Train derailment: in Drisy station	i
04.12.2015	Level-crossing accident: km 52,066 between Zdarec u Skutce – Hlinsko v Cechach stations	i
11.12.2015	Level-crossing accident: km 21,580 in Frydek Mistek station	i

Basis for investigation: i = According to the Safety Directive, ii = On national legal basis (covering possible areas excluded in Article 2, §2 of the Safety Directive), iii = Voluntary – other criteria (National rules/regulations not referred to the Safety Directive).

3.3 Research studies (or Safety Studies) commissioned and completed in 2015

Safety Studies completed in 2015

Date of commission	Title of the Study (Occurrence type, location)	Legal basis	Completed (date)
	none		

Basis for investigation: i = According to the Safety Directive, ii = On national legal basis (covering possible areas excluded in Article 2, §2 of the Safety Directive), iii = Voluntary – other criteria (National rules/regulations not referred to the Safety Directive).

Safety Studies commenced in 2015

Date of commission	Title of the Study (Occurrence type, location)	Legal basis
	none	

Basis for investigation: i = According to the Safety Directive, ii = On national legal basis (covering possible areas excluded in Article 2, §2 of the Safety Directive), iii = Voluntary – other criteria (National rules/regulations not referred to the Safety Directive).

3.4 Summaries of investigations completed in 2015

See annex of this report.



3.5 Comment and introduction or background to the investigations

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis
	none	

Basis for investigation: **i** = According to the Safety Directive, **ii** = On national legal basis (covering possible areas excluded in Article 2, §2 of the Safety Directive), **iii** = Voluntary – other criteria (National rules/regulations not referred to the Safety Directive).

Investigations commenced in 2015 and not followed

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Reason of non following or suspension of investigations	Who, why, when (decision)
	none			

Basis for investigation: **i** = According to the Safety Directive, **ii** = On national legal basis (covering possible areas excluded in Article 2, §2 of the Safety Directive), **iii** = Voluntary – other criteria (National rules/regulations not referred to the Safety Directive).



3.6 Accidents and incidents investigated during last five years (in 2011–2015)

Rail investigations completed in 2011–2015

The table groups investigations by year of their completion.

Accidents investigated		2011	2012	2013	2014	2015	TOT
Serious accidents (Art 19, 1 + 2)	Train collision	1	0	0	0	0	1
	Train collision with an obstacle	0	0	0	0	0	0
	Train derailment	1	0	2	0	0	3
	Level-crossing accident	-	-	-	-	-	-
	Accident to person caused by RS in motion	-	-	-	-	-	-
	Fire in rolling stock	-	-	-	-	-	-
	Involving dangerous goods	0	0	0	0	0	0
Other accidents (Art 21.6)	Train collision	1	3	2	0	3	9
	Train collision with an obstacle	2	4	3	2	4	15
	Train derailment	5	6	7	6	4	28
	Level-crossing accident	1	5	4	6	8	24
	Accident to person caused by RS in motion	2	2	1	1	2	8
	Fire in rolling stock	0	0	0	0	0	0
	Involving dangerous goods	0	0	0	0	0	0
Incidents	2	1	6	2	1	12	
TOTAL		15	21	25	17	22	100



4 RECOMMENDATIONS

4.1 Short review and presentation of recommendations

A safety recommendation can be issued only on a basis of an independent investigation performed by The Rail Safety Inspection Office (NIB). Safety recommendation is usually issued when an accident occurred without any violation of legislation or internal regulations of infrastructure manager and/or railway undertaking, or if there are other findings relevant for the safety.

According to national legislation, safety recommendations are not legally binding. When a recommendation is issued, railway undertakings and infrastructure managers are obliged to adopt their own preventative safety measures based on the safety recommendation issued.

Implementation of recommendations during 2011 – 2015

Recommendations issued		Recommendation implementation status					
		Implemented		In progress		Not to be implemented	
Year	[No.]	[No.]	[%]	[No.]	[%]	[No.]	[%]
2011	14	7	50	4	28,6	3	21,4
2012	19	7	36,8	8	42,1	4	21,1
2013	25	14	56	10	40	1	4
2014	20	7	35	10	50	3	15
2015	25	5	20	14	56	6	24
TOTAL	103	40	38,8	46	44,7	17	16,5

Accidents with safety recommendations issued in 2011 – 2015

Date of occurrence	Title of the investigation (Occurrence type, location)	Status of implem.	Completed (date)
29.05.2010	Level-crossing accident: km 3.835 between Cervena Voda - Kraliky stations	partially implemented	18.02.2011
11.03.2010	Other: intrusion on train by brake-shoe between Brodek u Prerova - Dluhonice stations	implemented	01.03.2011
22.06.2009	Train derailment: in Olomouc station	not implemented	03.03.2011
01.07.2009	Train derailment: between Senohraby - Strancice stations	implemented	11.04.2011
07.12.2010	Train derailment: between Jesenik - Lipova Lazne stations	not implemented	06.06.2011



Date of occurrence	Title of the investigation (Occurrence type, location)	Status of implem.	Completed (date)
28.06.2010	Train derailment: in Usti nad Labem-jih station	partially implemented	15.06.2011
20.12.2010	Trains collision: in Kamenne Zehrovice station	partially implemented	02.08.2011
04.04.2010	Accident to person – Injury to passenger: in Sazavka stop	not implemented	04.08.2011
02.02.2011	Trains collision: between Vodnany – Cicenice stations	implemented	16.08.2011
22.01.2011	Train derailment: in Brno Malomerice station	in progress	12.09.2011
06.01.2011	Trains collision: between Holetin - Vojtechov stops	implemented	11.11.2011
31.03.2011	Accident to person – Injury to passenger: in Cimelice station	implemented	14.11.2011
21.04.2011	Accident to person – Injury to passenger: The City of Ostrava – tram stop Tylova	implemented	14.11.2011
14.03.2011	Other: Broken tyre of wheel of locomotive: in Uhersko station	implemented	14.12.2011
11.07.2011	Trains collision with an obstacle: in Olomouc hl. n. station	partially implemented	19.01.2012
20.10.2010	Accident to person caused by RS in motion: between Prackovice nad Labem - Lovosice stations	implemented	29.03.2012
05.06.2011	Train derailment: between Vyskov na Morave - Ivancice na Hane stations	implemented	29.03.2012
29.07.2011	Train derailment: between Okrisky - Jihlava stations	in progress	18.04.2012
17.10.2011	Trains collision with an obstacle: between Ostrava Trebovice - Dehylov stations	implemented	20.04.2012
22.10.2011	Train derailment: Branch Odra, between Ostrava Kuncice - Ostrava Svinov stations	in progress	29.05.2012
05.12.2011	Other: SPAD in Baska station	partially implemented	25.06.2012
23.08.2011	Trains collision: in Praha Liben station	partially implemented	24.08.2012
22.11.2011	Trains collision with an obstacle: in Hradcany stop	implemented	06.09.2012
08.12.2011	Other: railway vehicle movement events in the siding "Vlecka CEZ" Chvaletice	implemented	06.09.2012
24.01.2012	Trains collision with an obstacle: in the siding "Vlecka Drevosklad" Adamov	implemented	10.09.2012
27.02.2012	Level-crossing accident: km 247,813 between Protivin stop - Protivin station	implemented	11.09.2012
17.11.2011	Train derailment: between Pardubice Rosice nad Labem - Steblova stations	partially implemented	24.09.2012



Date of occurrence	Title of the investigation (Occurrence type, location)	Status of implem.	Completed (date)
05.03.2012	Level-crossing accident: km 4,740 between Kobyli na Morave - Velke Pavlovice stations	not implemented	12.10.2012
20.01.2012	Level-crossing accident: km 54,854 in Breznice station	not implemented	16.11.2012
29.07.2011	Accident to person caused by RS in motion: in Vladislav station	partially implemented	23.11.2012
07.09.2011	Train derailment: in Prerov station	not implemented	04.12.2012
29.02.2012	Level-crossing accident: km 186,463 in Kastice station	not implemented	07.12.2012
21.07.2011	Trains collision with an obstacle: between Hodkovice nad Mohelkou - Rychnov u Jablonce nad Nisou stations	partially implemented	27.12.2012
12.09.2011	Train derailment: in Slatinany station	implemented	03.01.2013
07.05.2012	Level-crossing accident: km 286,369 in Uhersko station	not implemented	03.01.2013
23.07.2012	Trains collision with an obstacle: between Strelice - Hrusovany nad Jevisevkou stations	implemented	11.02.2013
26.08.2012	Trains collision with an obstacle: between Vlastejovice - Ledec nad Sazavou stations	implemented	25.02.2013
29.03.2012	Other: SPAD in Praha hlavni nadrazi station	partially implemented	26.03.2013
01.11.2012	Other: Broken axle - The city of Ostrava – tram yard	implemented	12.04.2013
28.07.2012	Level-crossing accident: km 2,431 in the siding "Vlecka Elektrarna" Opatovice	implemented	26.04.2013
31.03.2012	Trains collision: between Peruc - Klobuky v Cechach stations	implemented	10.05.2013
19.09.2011	Trains collision: The City of Praha – tram stop Kotlarka	partially implemented	15.05.2013
16.02.2012	Other: SPAD between Korenov - Dolny Polubny stations	partially implemented	30.05.2013
05.02.2013	Trains collision: in Mirosov station	implemented	14.06.2013
14.01.2013	Accident to person caused by RS in motion – Injury to passenger: in Bystricka stop	implemented	15.07.2013
13.01.2013	Train derailment: in Vysoke Myto station	implemented	05.08.2013
14.12.2012	Level-crossing accident: km 320,829 between Prelouc and Recany - Labem stations	partially implemented	16.08.2013
04.02.2013	Other: Unauthorised train movement other than SPAD in Adamov station	implemented	27.08.2013
22.01.2013	Other: SPAD in Kolin station	partially implemented	16.09.2013
01.04.2013	Level-crossing accident: km 61,796 between Lenora station - Lenora stop	implemented	16.09.2013



Date of occurrence	Title of the investigation (Occurrence type, location)	Status of implem.	Completed (date)
31.03.2013	Train derailment: in Odry station	partially implemented	27.09.2013
20.05.2013	Train derailment: in Nepomuk station	implemented	04.10.2013
25.04.2013	Other: Broken axle between Klenci pod Cerchovem - Pobezovice stations	implemented	04.11.2013
25.06.2012	Other: SPAD in Horovice station	partially implemented	10.11.2013
24.03.2013	Train derailment: between Tabor - Chotoviny stations	implemented	20.11.2013
02.05.2013	Other: SPAD in Kunovice Loucka station	partially implemented	28.11.2013
23.05.2013	Train derailment: in Kladno station	partially implemented	20.12.2013
20.05.2012	Train derailment: between Steti - Libechov stations	partially implemented	30.12.2013
10.09.2012	Train derailment: among Blansko – Adamov – Brno Malomerice stations	partially implemented	24.01.2014
18.11.2012	Train derailment: in Praha Vrsovice station	implemented	30.04.2014
30.01.2013	Other: SPAD in Strancice station	partially implemented	03.06.2014
24.02.2013	Other: Broken wheel between Jesenik - Lipova Lazne stations	implemented	16.01.2014
12.03.2013	Train derailment: in Prelouc station	not implemented	05.03.2014
27.03.2013	Other: SPAD in Roztoky u Prahy station	partially implemented	14.03.2014
20.06.2013	Train derailment: The city of Brno – tram stop Celni	implemented	09.01.2014
13.07.2013	Level-crossing accident: km 110,525 between Opava zapad - Skrochovice stations	not implemented	13.01.2014
21.07.2013	Train derailment: in Pardubice hlavni nadrazi station	partially implemented	15.01.2014
07.08.2013	Level-crossing accident: km 7,527 between Varnsdorf - Rybniste stations	partially implemented	25.06.2014
31.08.2013	Other: SPAD in Postrelmov station	partially implemented	21.02.2014
12.09.2013	Level-crossing accident: km 148,648 between Jaromerice nad Rokytnou - Kojetice na Morave stations	partially implemented	03.02.2014
02.10.2013	Other: Derailment during shunting operation in Prerov station	partially implemented	06.05.2014
03.11.2013	Other: Derailment during shunting operation in Brno Malomerice station	implemented	25.08.2014
10.01.2014	Accident to person caused by RS in motion: The city of Praha – tram stop Palmovka	implemented	06.10.2014



Date of occurrence	Title of the investigation (Occurrence type, location)	Status of implem.	Completed (date)
04.02.2014	Trains collision with an obstacle: between Jindrichov ve Slezsku statni hranice – Jindrichov ve Slezsku stations	in progress	01.09.2014
07.03.2014	Train derailment: in Brno hlavni nadrazi station	implemented	02.09.2014
10.03.2014	Other: Tram trains collision during shunting operation in The City of Ostrava – tram stop Nova hut jizni braha	implemented	20.08.2014
15.03.2014	Level-crossing accident: km 61,599 between Cervenka - Moravicany stations	partially implemented	31.10.2014
24.03.2014	Level-crossing accident: km 16,388 between Rozsochatec - Chotebor stations	not implemented	18.11.2014
11.10.2013	Accident to person caused by RS in motion: in Karlov pod Jestedem station	partially implemented	15.01.2015
11.07.2014	Level-crossing accident: km 6,006 between Brno Chrlice – Brno hlavni nadrazi stations	partially implemented	04.03.2015
30.08.2014	Level-crossing accident: km 77,275 between Slatinany – Chrudim stations	not implemented	29.04.2015
09.09.2014	Accident to person caused by RS in motion: The city of Ostrava – tram stop Horni	partially implemented	14.05.2015
01.12.2014	Train derailment: between Pacejov – Horazdovice predmesti stations	partially implemented	27.05.2015
08.07.2014	Trains collision: in Ceska Trebova station with consequent derailment	partially implemented	28.05.2015
11.11.2014	Trains collision: between Petrovice u Karvine – Odbocka Zavada stations	partially implemented	01.06.2015
28.03.2014	Other: SPAD in Praha hlavni nadrazi station	not implemented	19.06.2015
23.04.2014	Level-crossing accident: km 361,191 in Vsetaty station	implemented	19.06.2015
24.03.2015	Level-crossing accident: km 47,208 between Obratan – Chynov stations	not implemented	10.08.2015
21.11.2014	Train derailment: in Ostrava hlavni nadrazi station	implemented	11.08.2015
13.03.2014	Trains collision: between Decin Prostredni Zleb – Decin hlavni nadrazi stations	implemented	19.08.2015
28.11.2014	Train derailment: in Bohumin station	in progress	31.08.2015
26.07.2014	Level-crossing accident: km 80,206 between Jince - Bratkovice stations	partially implemented	07.09.2015
19.02.2015	Other: Unauthorised movement of shunting operation other than SPAD in Paskov siding with consequent derailment	implemented	16.09.2015
25.05.2015	Level-crossing accident: km 4,740 between Velke Pavlovice – Kobyli na Morave stations	not implemented	25.09.2015
27.07.2014	Other: SPAD in Kolin station	not implemented	30.09.2015



Date of occurrence	Title of the investigation (Occurrence type, location)	Status of implem.	Completed (date)
15.12.2014	Trains collision with an obstacle: in Prosenice station	implemented	04.11.2015
28.01.2015	Trains collision with an obstacle: between Ponikla – Hrabacov stations with consequent derailment	partially implemented	20.11.2015
16.11.2014	Train collision with an obstacle: in Hrusovany u Brna station	partially implemented	30.11.2015
24.06.2015	Level-crossing accident: km 8,985 between Sudomerice nad Moravou – Straznice stations	not implemented	01.12.2015
27.02.2015	Accident to person caused by RS in motion: in Cernotin stop	partially implemented	10.12.2015
22.07.2015	Level-crossing accident: km 245,044 in Studenka station	in progress	15.12.2015
19.06.2014	Other: Unauthorised train movement other than SPAD in Dolni Berkovice station	partially implemented	17.12.2015
29.06.2015	Train derailment: in Prosenice station	in progress	29.12.2015

4.2 Recommendations issued in 2015

Date of occurrence	Title of the investigation, Safety recommendation
11.10.2013	Accident to person caused by RS in motion: in Karlov pod Jestedem station
	1) Addressed to the Czech National Safety Authority (Drazni urad): <ul style="list-style-type: none">• in contracts with external entities determine a duty for responsible SŽDC employee to perform a supervision of relevant technological processes before beginning the works;• by the adjustment of education and control system ensure that relevant qualification for activities on not excluded track will be owned only by person capable, in the extent of its professional qualification, to apply rules and regulations for safety operation and maintenance of management and safety system even in the direct performance of work activities.
11.07.2014	Level-crossing accident: km 6,006 between Brno Chrlice – Brno hlavní nadrazi stations
	1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.: <ul style="list-style-type: none">• it is recommended to increase safety at the level crossings which are equipped with warning lights in accordance with previous safety recommendations of Czech



Date of occurrence	Title of the investigation, Safety recommendation
	<p>NIB, so that at reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks which are included to European railway system) there was designed and installed only level crossing safety equipment with warning lights and barriers.</p> <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> • it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic. <p>3) Addressed to South Moravian Regional Authority:</p> <ul style="list-style-type: none"> • In connection with the provision of Article 19, paragraph 1 of Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 The Rail Safety Inspection Office (CZ NIB) recommend to take own measure forcing implementation listed below in CDV document for the road owner.
30.08.2014	Level-crossing accident: km 77,275 between Slatinany – Chrudim stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none"> • it is recommended to verify related traffic signs at all level crossings which are use only by pedestrians, which are equipped only with warning crosses to ensure safe operation of the railway transport and users of level crossing for pedestrian; • to consider of installing turnstiles or meander railing that would prevent direct and sudden entrance of cyclists near a level crossings for a pedestrian which are equipped only by traffic signs. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> • it is recommended to take own measure forcing implementation of the above recommendations for all other IM in the Czech Republic.
09.09.2014	Accident to person caused by RS in motion: The city of Ostrava – tram stop Horni
	<p>1) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> • It is recommended to take own measure forcing implementation of the recommendation by all relevant railway (tramway) undertakings in the Czech Republic (with exception of Dopravní podnik Ostrava, a. s., which had already implemented this recommendation): <ul style="list-style-type: none"> ◦ to provide all tram types with technical device ensuring that doors will not start closing earlier than after 3 seconds duration of acoustic and visual warning.
01.12.2014	Train derailment: between Pacejov – Horazdovice predmesti stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p>



Date of occurrence	Title of the investigation, Safety recommendation
	<ul style="list-style-type: none">• accelerate the installation of new diagnostic devices for detecting faults on rolling stock complaint with Directive no. 36. To prefer placing those diagnostic devices on lines equipped with remote-controlled interlocking equipment;• modify the articles No. 3773 and 3774 of internal regulation SŽDC D 1 (or extend the existing) to determine technological processes for employees of IM and RU, in a case that a dangerous technical fault is identified. <p>2) Addressed to railway undertaking ČD Cargo, a. s.:</p> <ul style="list-style-type: none">• perform the revision of all wagons which have been equipped with the bearing housing of type 59V and their actual mileage since the last revision repair exceeded 130.000 km. This revision has to include at least removing of the bearing housing, disassembling, safety check, bearing lubrication and filling the bearing housing with new lubricant;• establish within its safety management system the assessment system to improve the bearing condition of wagons in the course of their useful lives, perform records so that it can be identified when the check of axle bearings (maintenance, repair, lubrication, etc...) was carried out.;• reconsider the system of the planned repairs of towed rolling stocks effective since 1. January 2014 in order to not prolong the mileage of towed rolling stocks with respect to the adopted safety management system. <p>3) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) and railway undertaking (RU) in the Czech Republic.
08.07.2014	Trains collision: in Ceska Trebova station with consequent derailment
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• evaluate distances and the way of positioning of main signals on railways operated by SŽDC, and based on that determine maximum horizontal distance from axis of track and horizontal distance above the rail head;• in case of positioning the main signal somewhere else than recently determined site ensure notification about this situation to a train driver;• in case of setting up new (alternatively reconstruction of current) main signals, place them according to newly determine distances. <p>The meaning of safety recommendation mentioned above is keep going with increasing of safety level of railway transport, In this case in particular by positioning new constructed main signals in the way to be placed in visual field of</p>



Date of occurrence	Title of the investigation, Safety recommendation
	<p>train driver. This position have to allow easy, quick and clear perception of given signal. If the signal wouldn't be in required position, then notification about that by signalling to train driver is needed. This safety recommendation does not contest the necessity of ensuring visibility of main signal according to other rules and regulations at all.</p> <p>2) Addressed to railway undertakings Advanced World Transport a. s.:</p> <ul style="list-style-type: none">it is recommended for at least two years archive initial documents about rides with train for obtaining the track line knowledge by employees, due to an option of their potential traceability of the actual execution of this ride. <p>The meaning of safety recommendation is to ensure that the railway undertaking will be able to prove a certain minimum period that its employees meet one of the conditions necessary to obtain a professional qualification for driving a train. Either for the purpose of preventive controls or for investigation accidents and incidents.</p> <p>3) Addressed to Czech Ministry of Transport:</p> <ul style="list-style-type: none">include the above safety recommendations into the relevant legislation, in particular to precise requirements for placing the main signals and solution for “atypical” placed main signals. Be more specific about minimum requirements for the area of knowledge of track line conditions governing train drivers, including administration and archiving system. <p>The meaning of safety recommendation is to set clear, mandatory and uniform rules for all infrastructure managers and railway undertakings on nationwide and regional railways and sidings.</p> <p>4) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure managers (IM) and railway undertakings (RU) in the Czech Republic.
11.11.2014	Trains collision: between Petrovice u Karvine – Odbocka Zavada stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">reconsider technological process of ride of auxiliary shunting rolling stock for stuck train, when is ride of auxiliary shunting rolling stock realized in direction of the slope against of stuck train. Particularly in relation to the exceeding of the speed limit in the section of the last 1000 meters ahead of the spot of stuck train so that those procedures were tightened even more. In cases where there isn't known the exact



Date of occurrence	Title of the investigation, Safety recommendation
	<p>place of stuck train, apply tightening of procedures from main (the entrance) signal for the opposite direction.</p> <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic.
28.03.2014	Other: SPAD in Praha hlavní nadrazi station
	<p>1) Addressed to Czech Ministry of Transport in cooperation with Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> adjust rules for the operation of the track so that the technological process of dispatching trains (with transport of passengers, which regularly or extraordinary stops at a place for entry and exit of passengers only by using of the main - departure signal permitting the movement of the train) would be used by rail operators only in cases where it is bound to another safety policy, whether technical or organizational solutions that would minimize the risk of unauthorized departure of a train without expedition due to failure human Factor of train driver.
23.04.2014	Level-crossing accident: km 361,191 in Vsetaty station
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none"> to check out railways of SŽDC, whether there are other level crossings between them is insufficient distance and drivers of vehicles are not warned by traffic signs about the maximum allowed length of a road vehicle in case the driver would be forced to stop between them; In case if other similar level crossing on the railways of IM (SŽDC) would be found, ensure as soon as possible measures to ensure safety on them. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure managers (IM) in the Czech Republic.
24.03.2015	Level-crossing accident: km 47,208 between Obratan – Chynov stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none"> it is recommended to increase safety at the level crossings equipped with warning lights in accordance with previous safety recommendations of Czech NIB, so that at reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks included to European railway system) were designed and



Date of occurrence	Title of the investigation, Safety recommendation
	<p>installed only level crossing safety equipment with warning lights and barriers</p> <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic. <p>3) Addressed to Ministry of Transport:</p> <ul style="list-style-type: none">• incorporating the above safety recommendation for the infrastructure manager to Act no. 266/1994 Coll., on Railways, as amended. <p>The point of this safety recommendation is further increase safety level at level crossings and during railway lines modernizations, by installing safety equipment with warning lights and barriers. This kind of safety equipment seems to be the most safe for both, road and rail transport, except flyover crossing. It is the most efficient measure to prevent repeating the same accidents/incidents with identical causes: i. e. oversight of the warning traffic signs (warning lights) without barriers. This measure could in the future prevent the vast majority of accidents/incidents, and ensure health protection of passengers and staff as a consequence of negotiations of road users. It can't be miss out a today's reality, that at railways are used more and more lightweight construction trains much more vulnerable to get damaged by collisions, and are more predisposed to derailment with much worse consequences. The Czech NIB also recommend for consideration further options of technical solutions, applicable for roads, to increase safety at above mentioned level crossing.</p>
21.11.2014	Train derailment: in Ostrava hlavni nadrazi station
	<p>1) Addressed to railway undertaking PKP CARGO, S. A.:</p> <ul style="list-style-type: none">• adjust maintenance system of axles (nondestructive testing) produced in December 1979 in ironworks 1 Maj Gliwice, under the smelting number 56485 to ensure that wagons equipped with these axles will be technically capable and will remain capable until the end of their using. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendation within the authority over the Railway undertakings (wagon keepers) which are using wagons with axles under the concerned smelting in the Czech Republic as well in the frame of international activities and as a member of the national safety authorities network.



Date of occurrence	Title of the investigation, Safety recommendation
13.03.2014	Trains collision: between Decin Prostedni Zleb – Decin hlavni nadrazi stations
	<p>1) Addressed to Railway undertaking LTE Logistik a Transport Czechia, s. r. o.:</p> <ul style="list-style-type: none">to focus on a training system of train drivers and their regular training so that to be able, properly and immediately, within the meaning of regulations, respond to the emergency, especially in cases of failure of any part of the locomotive brake system. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">it is recommended to take own measure forcing implementation of the above recommendation for other railway undertakings (RU) in the Czech Republic.
28.11.2014	Train derailment: in Bohumin station
	<p>1) Addressed to infrastructure manager České dráhy, a. s.:</p> <ul style="list-style-type: none">to harmonize SMS elements of operating the national railways and contents uniform technological processes on other railways, to provide responsibilities of managers and workers for safety during railway operation, maintenance, ensuring safe technical parameters, allowed components and their allowed wear. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">it is recommended to take own measure forcing implementation of the above recommendation for all other IMs within Czech republic, or more precisely measures in the process of publishing, respectively changing of safety certification of IM in terms of completeness and accuracy of the SMS. <p>Goal of the safety recommendation is to ensure that a valid certificate of IM correspond to reality and requirements of the SMS.</p>
26.07.2014	Level-crossing accident: km 80,206 between Jince - Bratkovice stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">to ensure maximum level of safety at existing level crossings secured by level crossing systems with signals without barriers by adding the mechanical barriers. In the process of designing a new level crossings not to allow security without mechanical warning (barriers). <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">it is recommended to take own measure forcing implementation of the above



Date of occurrence	Title of the investigation, Safety recommendation
	<p>recommendations for other all IMs in the Czech republic;</p> <ul style="list-style-type: none"> not to allow, in the case of authorization process of level crossing reconstruction, other security system than light and acoustic warning system equipped with barriers.
19.02.2015	Other: Unauthorised movement of shunting operation other than SPAD in Paskov siding with consequent derailment
	<p>1) Addressed to infrastructure manager and railway undertaking Advanced World Transport:</p> <ul style="list-style-type: none"> determine the responsibility of management and employees to ensure control of compliance with the rules of operation of rail transport, including procedures and frequency of controls to ensure compliance with existing new and changed technical and operational standards or other prescriptive conditions contained in national legislation, in internal regulations of the RU and by the decisions of government authorities, in technological procedures of the operation of rail transport on sidings; determine a obligation of engine driver to check the connection of the engine and first air braked wagon. That is not a case, when the connection is provided by engine driver himself. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> it is recommended to take own measure forcing implementation of the above recommendations for other all RUs/IMs at all sidings in the Czech republic.
25.05.2015	Level-crossing accident: km 4,740 between Velke Pavlovice – Kobyli na Morave stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none"> improve safety at the level crossing P7140 by installing barriers; based on previous safety recommendations of the Czech NIB, it is recommended, in case of reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks included to European railway system) to design and install only level crossing safety equipment with warning lights and barriers. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none"> it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure managers (IM) in the Czech Republic.



Date of occurrence	Title of the investigation, Safety recommendation
	<p>3) Addressed to Ministry of Transport:</p> <ul style="list-style-type: none">incorporating the above safety recommendation for the infrastructure manager to Act no. 266/1994 Coll., on Railways, as amended. <p>4) Addressed to South Moravian Regional Authority:</p> <ul style="list-style-type: none">in connection with the provision of Act 30/2001, it's recommended to take own measure to install road marking V18 on the road leading over the level crossing P7140. <p>The point of these above mentioned safety recommendations is further increase safety level at level crossings and during railway lines modernizations, by installing safety equipment with warning lights and barriers. This kind of safety equipment seems to be the most safe for both, road and rail transport, except flyover crossing. It is the most efficient measure to prevent repeating the same accidents/incidents with identical causes: i. e. oversight of the warning traffic signs (warning lights) without barriers. This measure could in the future prevent the vast majority of accidents/incidents, and ensure health protection of passengers and staff as a consequence of negotiations of road users. It can't be miss out a today's reality, that at railways are used more and more lightweight construction trains much more vulnerable to get damaged by collisions, and are more predisposed to derailment with much worse consequences. The Czech NIB also recommend for consideration further options of technical solutions, applicable for roads, to increase safety at above mentioned level crossing, eg. optical psychological brake – which could form another optical or acoustic warning before a level crossing. This leads driver to reduce speed, thereby increasing attention and when any of these factors could increase the reaction time for drivers, who are approaching the railway crossing.</p>
27.07.2014	Other: SPAD in Kolin station
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s.o.:</p> <ul style="list-style-type: none">to accept joint conceptional technical or organization measure to prevent this kind of accident/incident or eventually to reduce the consequences in case of failure of the train driver or in case of imminent or real unauthorized movement behind the main signal. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">it is recommended to adopt own measure forcing implementation of the above recommendations for other infrastructure managers (IM) and railway undertakers (RU) in the Czech Republic. Because the rail operation and rail transport safety is



Date of occurrence	Title of the investigation, Safety recommendation
	<p>based on close cooperation between RUs and IMs.</p> <p>The goal of this safety recommendation is to increase the focus on avoiding situations of potential danger to rail paths of rolling stocks (two trains, shunting against each other). Eventually emergency stop these trains, whose safety are threatened, automatically in case of unauthorized movement behind the main signal.</p>
15.12.2014	Trains collision with an obstacle: in Prosenice station
	<p>1) Addressed to railway undertaking ČD Cargo, a. s.:</p> <ul style="list-style-type: none">• determine procedures for checking the correct loading and fixation of this specific load of rolls of wire. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other railway undertakings (RU) in the Czech Republic.
28.01.2015	Trains collision with an obstacle: between Ponikla – Hrabacov stations with consequent derailment
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• to perform regular specialized preventive examinations of (in advance selected) rock faces associated with the preliminary geotechnical surveys as a part of comprehensive inspections;• in case of performing these inspections by SŽDC, s. o. (IM) employees, to determine carrying out these inspections into their job description. Determination of qualification of these employees is needed as well;• in case of performing these inspections by SŽDC, s. o. (IM) employees, determine technological procedures of these inspections. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for all the other IM's in the Czech republic. <p>The goal of these above mentioned safety recommendations is to carry out regular specialized preventive examinations of the rock faces by qualified staff with special focus on finding out geotechnical threats, which are endangering railway safety. Is needed to introduce a kind of system, for keeping the state of the rock faces under control. The state of these rock faces is needed to be regularly checked and the</p>



Date of occurrence	Title of the investigation, Safety recommendation
measures to prevent potential threats needs to be taken soon enough.	
16.11.2014	Train collision with an obstacle: in Hrusovany u Brna station
<p>1) Addressed to railway undertakings České dráhy, a. s.:</p> <ul style="list-style-type: none">• to equip gradually all locomotives by technical device, which will provide the train driver a possibility to control the movement of collectors on the overhead contact line (eg. cameras with recording and live streaming to the cab of train driver);• install on all electric locomotives on collector down position limit switch. The collector would send a signal to the locomotive driver to confirm its bottom locked position;• for locomotives operated in train sets with control cars extend the recording of the speed indicator of locomotive commands given by switch No. S125 given by locomotive driver from control car. <p>The purpose of the recommendation is in time detect the collector damage and prevent incidents and accidents of collector damage, or reduce the material damage, eliminate threats to the safety of traffic or due to interference damaged collectors with trains in neighboring track. Due to the increasing number of unspecified and sudden damage to the collectors and overhead contact line to ensure determination of the incident cause and to take effective measure in order to prevent them.</p> <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other all RU in the Czech republic, who are using electric locomotives. <p>3) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• make an outline and organize specialized training course based on experiences from incidents focused on dealing with the crisis situations or in the case of accident/incident threats.• The purpose of the recommendations is enhance readiness of the RU and IM employees and equip them with new habits for prompt and proper reactions in case of incident. This can make a contribution to reduce the consequences of the accidents or incidents in the future, or even prevent them by proper assess of the situation. <p>4) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above	



Date of occurrence	Title of the investigation, Safety recommendation
	recommendations for other all IM and RU in the Czech republic.
24.06.2015	Level-crossing accident: km 8,985 between Sudomerice nad Moravou – Straznice stations
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• improve safety at the level crossing P8143 by installing barriers;• it is recommended to increase safety at the level crossings which are equipped with warning lights in accordance with previous safety recommendations of Czech NIB, so that at reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks which are included to European railway system) there was designed and installed only level crossing safety equipment with warning lights and barriers. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic. <p>3) Addressed to Czech Ministry of Transport:</p> <ul style="list-style-type: none">• it is recommended to introduce the level crossing safety improvement measure, as mentioned above, for infrastructure managers (IM) into act No. 266/1994. <p>4) Addressed to town office Strážnice:</p> <ul style="list-style-type: none">• in connection with the provision of Act 30/2001, it's recommended to take own measure to install road markings V5 and V18 on the main direction of the road leading the level crossing P8143.
27.02.2015	Accident to person caused by RS in motion: in Cernotin stop
	<p>1) Addressed to railway undertaking České dráhy, a. s.:</p> <ul style="list-style-type: none">• It is recommended to equip traction control system of the train unit type 460 and 560 with a new system, in order to prevent setting the train in motion unless the doors are completely closed;• until the realization the above mentioned safety recommendation to intensify the control activities focused on management processes of train drivers of units 460 and 560, before setting the train in motion at stops and stations. <p>2) Addressed to Czech National Safety Authority (NSA).</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other all RUs in the Czech republic, which use these electric units (type 460 and 560).
22.07.2015	Level-crossing accident: km 245,044 in Studenka station



Date of occurrence	Title of the investigation, Safety recommendation
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• at level crossings equipped by light level crossing system with half barriers, conduct a feasibility study of a new system providing the way of going up and down the barriers. The current system is simultaneous, while the potential new system could be sequential in the sense that the front barrier on the driver side could go down sooner than the opposite one immediately after expiring warning time. Based on this study to implement change of a current system to the new one at all relevant level crossings, especially on multi-track lines;• to prefer for all newly implemented level crossing systems equipped by the light level crossing system with half barriers the system where the barrier on the driver side goes down sooner than the opposite one, immediately after expiring warning time;• conduct risk analysis a part of which would be an assessment of local conditions and behaviour of road users within modernisation (reconstruction) or regular control check of level crossings. <p>2) Addressed to railway undertaking České dráhy, a. s.</p> <ul style="list-style-type: none">• within the training for the position of train driver and follow-up trainings to systematically focus on critical situations (eg. through various simulators or practical training on specific locomotives);• to mark the area behind the train driver's cab with warnings (inscriptions, or pictograms). Ensure there a free space (escape route for the train driver). To entitle train crew members to give instructions and orders to passengers in order to avoid anything what could prevent the train driver to escape from the cabin in case of danger. <p>3) Addressed to The Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take its own measure forcing implementation of the above recommendations for other railway undertakings (RUs) in the Czech Republic;• it is recommended to take its own measure forcing implementation of the above recommendations for other infrastructure managers (IMs) in the Czech Republic;• in cooperation with the Czech Ministry of Transport to initiate change of Czech standards CSN 34 2650 ed. 2 "Railway signaling equipment - Level crossing safety equipment", as amended so that at level crossings secured by light level crossing system with two half barriers on both sides that go down simultaneously against each other, apply as a matter of priority the system where the barrier on the driver side goes down sooner than the opposite one immediately after expiring warning time;• in cooperation with the Ministry of Transport of the Czech Republic to consider the possibility of initiating change in the Czech technical standard CSN 34 2650 ed. 2 "Railway signaling equipment - Level crossing safety equipment" as amended so that the signal red and white paint on the inside of the barriers was replaced by a



Date of occurrence	Title of the investigation, Safety recommendation
	<p>different sign (which does not evoke a ban), or encouraging the driver to leave the level crossing by breaking the barriers.</p> <p>4) Addressed to Czech Ministry of Transport:</p> <ul style="list-style-type: none">• to expand awareness of road vehicle drivers by the option to break the barriers in the situation, when road vehicle is trapped between the barriers on the level crossing;• to tighten up the punishments for unauthorized entry of road vehicles and road users onto a level crossing when it is forbidden in order to prevent these situations in advance. At the same time it must also be ensured completely effective detection system of misusing the safety system mentioned above (eg. In the form of security cameras) and impose sanctions.
19.06.2014	Other: Unauthorised train movement other than SPAD in Dolni Berkovice station
	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• by increasing of demands on employees who carry out controls and supervision on all levels of control ensure:<ul style="list-style-type: none">- to keep the basic transport documentation flawless so that the instructions in this documentation will be keeping updated and meet the technological processes for operating of track and organization of railway transport;- to keep the professional level of train drivers and operational staff so that their work habits and responsibilities will be in compliance with internal regulations and technological processes for operating of track and organization of railway transport. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• tightening control of requirements compliance of the issued safety certificate of the infrastructure managers;• tightening control of requirements compliance of the issued safety certificate of the railway undertakings.
29.06.2015	Train derailment: in Prosenice station
	<p>1) Addressed to railway undertaking ČD Cargo, a. s.:</p> <ul style="list-style-type: none">• to discuss a strict implementation of chapter 2, article 7, para. 7.1, general agreement on the use of rolling stocks, as amended with the holder of derailment freight wagon (CTL KOLZAP Sp. z o. o.) in order to ensure the that the technical conditions of the freight wagons will meet the requirements throughout their use for the operation of railway transport;



Date of occurrence	Title of the investigation, Safety recommendation
	<ul style="list-style-type: none">to discuss with the holder of derailment freight wagon (CTL KOLZAP Sp. z o. o.) and with other holders of the same kind of wagons a possibility to equip wagons (especially those used for RID transports) with pneumatic derailment detectors. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">it is recommended to take own measure forcing implementation of the above recommendation. <p>3) Addressed to Poland National Safety Authority (NSA):</p> <ul style="list-style-type: none">to take own measure towards holder of the derailment freight wagon (CTL KOLZAP Sp. z o. o.), in order to force them to take care about their towed rolling stocks, especially about towed rolling stocks with installed axles produced in ironworks 1 Maja Gliwice in 1986 and earlier, so that the freight wagons will meet the requirements throughout their use for the operation of railway transport. <p>The goal of issued recommendations is preventing accidents/incidents caused by inadequate technical state of wagons, when one or more wagons are derailed, but without the common related effect – air leakage from the brake pipe and consequent automatic initiating braking performance. The train continues without even noticing it. Noticeable factor, that supports equipping wagons with pneumatic derailment detectors is the IM's attitude, who cut down numbers of stations with crew responsible to check the trains and able to recognize rail vehicle defects. The result is increase of the numbers or length of segments in which the trains are not monitored.</p>

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	11 th October 2013, 9:25 (7:25 GMT).
Occurrence type:	accident to person caused by rolling stock in motion.
Description:	Three maintenance workers were working on the track, while the train No. 101155 drove on this track and one worker was hit by this passing train.
Type of train:	Train without passenger - train set No. 101155.
Location:	Karlov pod Ještědem station, track No. 1, (Děčín východ – Česká Lípa hl.n. - Liberec main line), km 135,900.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the train set No. 101155); Chládek & Tintěra, a. s. (maintenance service company).
Consequences:	1 fatality (maintenance worker); total damage CZK 83 118,-
Direct cause:	<ul style="list-style-type: none">• failure to stop work activity of contractor's employee on not excluded track at the time when train No. 101155 passed by. This employee wasn't warned by the work site patrol;• violation of terms for securing the work area by failure of providing information about current transport situation. Failure to determine adequate distance from the beginning of the work area. Consequence was late giving warning signals.
Contributory factor:	<ul style="list-style-type: none">• unsuitable manner of informing workers while working on not excluded track relative to the used working tools;• providing of supervisor activities when working on not excluded track by incompetent person.
Underlying cause:	<ul style="list-style-type: none">• breach of technological procedures of (IM) - failure to ensure of informing station dispatcher from Karlov pod Ještědem station about the planned works on operated, not excluded track, who is going to ensure supervision and time range within which the supervisor will have to report itself to station dispatcher of Karlov pod Ještědem station because of work safety conditions;• breach of technological procedures of IM for activity on operated, not excluded track.

Annex – Summaries of investigations completed in 2015

Root cause:

- failure to create sufficient control system which in case of unauthorized delegation of system responsibility for activities on not excluded track towards other legal entities would prevent:
 - conducting contractor's work activities on not excluded track without permission issued by infrastructure manager's employee responsible for this appropriate district;
 - performing operation supervisor by professionally unqualified person without local knowledge and appropriate documentation knowledge;
 - acquiring appropriate qualification by person incapable in practice to apply rules and regulations for safety operation and maintenance of management and safety system during work activities on not excluded track and during conducting safety cooperation between infrastructure manager's and contractor's employees.

Recommendations:

1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:

- in contracts with external entities determine a duty for responsible SŽDC employee to perform a supervision of relevant technological processes before beginning the works;

2) Addressed to Czech National Safety Authority (NSA):

- by the adjustment of education and control system ensure that relevant qualification for activities on not excluded track will be owned only by person capable, in the extent of its professional qualification, to apply rules and regulations for safety operation and maintenance of management and safety system even in the direct performance of work activities.



ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	13 th March 2014, 14:52 (13:52 GMT).
Occurrence type:	trains collision.
Description:	a freight train No. 48397 bumped into last wagon of stationary freight train No. 48325 due to unauthorized movement of freight train No. 48397 past an automatic block signal with signal “stop”.
Type of train:	freight train No. 48397; freight train No. 48325.
Location:	open line between Děčín-Prostřední Žleb a Děčín hlavní nádraží stations, km 1,971.
Parties:	SŽDC, s. o. (IM); LTE Logistik a Transport Czechia, s. r. o. (RU of freight train No. 48397); AWT, a. s. (RU of freight train No. 48325).
Consequences:	0 fatality, 0 injury; total damage CZK 6 834 824,-
Direct cause:	<ul style="list-style-type: none">• unauthorized movement of freight train No. 48397 past an automatic block signal with signal “stop”.
Contributory factor:	<ul style="list-style-type: none">• insufficient readiness of train driver to immediately respond to failure of the braking device by activation of additional braking device.
Underlying cause:	<ul style="list-style-type: none">• failure to comply of technological procedures of infrastructure manager for a ride on the track equipped with an automatic block by the person driving the train No. 48397.
Root cause:	none.
Recommendations:	
1) Addressed to Railway undertaking LTE Logistik a Transport Czechia, s. r. o.:	<ul style="list-style-type: none">• to focus on a training system of train drivers and their regular training so that to be able, properly and immediately, within the meaning of regulations, respond to the emergency, especially in cases of failure of any part of the locomotive brake system.

Annex – Summaries of investigations completed in 2015

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendation for other railway undertakings (RU) in the Czech Republic.



ACCIDENT SUMMARY

Grade:	incident.
Date and time:	28 th March 2014, 12:20 (GMT 11:20).
Occurrence type:	regional passenger train No. 8830 passed a signal at danger (departure signal with the signal “stop”).
Description:	regional passenger train No. 8830 passed the signal at danger (departure signal S11a showing signal “stop”) at Praha hlavní nádraží station.
Type of train:	regional passenger train No. 8830.
Location:	Praha hlavní nádraží station, main (departure) signal S11a, km 185,636.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of regional passenger train No. 8830).
Consequences:	0 fatality, 0 injury; total damage CZK 15 455,-
Direct cause:	<ul style="list-style-type: none">• ignoring signal “stop” of main (departure) signal S11a by the train driver.
Contributory factor:	<ul style="list-style-type: none">• absence of technical device to prevent a train from unauthorized movement past the signal at danger in case of train driver's failure.
Underlying cause:	<ul style="list-style-type: none">• failure to comply with technological procedures of infrastructure manager (IM) for train departure from the station by train driver of regional passenger train No. 8830 (putting the passenger train No. 8830 into motion without making sure if main (departure) signal S11a is in position enabling the ride.);• failure to comply with technological procedures of railway undertaking (RU), in particular:<ul style="list-style-type: none">◦ start with activities for a train departure from station occupied by station dispatcher without observing requirements for expedition of the train;◦ failure to monitor railway track during train movement and to respect given instructions.
Root cause:	<ul style="list-style-type: none">• introduction of dispatching trains (with transport of passengers, which regularly or extraordinary stops at a place for entry and exit of passengers at the Praha hlavní nádraží station) only by using the main (departure) signal permitting the movement of the train without any other

Annex – Summaries of investigations completed in 2015

security policy. The train dispatcher who controlled the railway transport had not been (organizationally or technically) replaced, in spite of warnings issued by Rail Safety Inspection Office about risks associated with results of investigation of previous accidents and incidents.

Recommendations:

Addressed to Czech Ministry of Transport in cooperation with Czech National Safety Authority (NSA):

- adjust rules for the operation of the track so that the technological process of dispatching trains (with transport of passengers, which regularly or extraordinary stops at a place for entry and exit of passengers only by using of the main - departure signal permitting the movement of the train) would be used by rail operators only in cases where it is bound to another safety policy, whether technical or organizational solutions that would minimize the risk of unauthorized departure of a train without expedition due to failure human Factor of train driver.



ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	12 th April 2014, 16:58 (14:58 GMT).
Occurrence type:	Collision of shunting operation engine with an other stationary locomotive and consequent derailment of the initially stationary locomotive.
Description:	failure to comply with condition for running on sight and for movement on occupied track, where was the stationary locomotive. The shunting operation locomotive suddenly collided with it on an actually occupied track.
Type of train:	The shunting operation – solo running locomotive; solo locomotive.
Location:	Česká Třebová – Praha-Libeň main line, Praha-Libeň station, station track No. 54, km 405,007.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of both locomotives).
Consequences:	1 light injury (train driver of shunting operation); total damage CZK 9 964 000.
Direct cause:	<ul style="list-style-type: none">• failure to comply with condition for running on sight by engine driver of shunting operation.
Contributory factor:	<ul style="list-style-type: none">• performing of the shunting operation by the engine driver without an appropriate permission;• lack of concentration on driving by the engine driver.
Underlying cause:	<ul style="list-style-type: none">• failure of technological processes of infrastructure manager and railway undertaking for activities in the course of performing the shunting operation conducted by the employee in charge of shunting operation (engine driver).
Root cause:	none.
Recommendations:	not issued.

Annex – Summaries of investigations completed in 2015



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	23 rd April 2014, 11:07 (9:07 GMT).
Occurrence type:	level crossing accident.
Description:	Collision of the freight train No. 66301 with the bus at level crossing No. P2724.
Type of train:	freight train No. 66301.
Location:	Všetaty station, station line No. 2, level crossing No. P2724, km 361,191.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the freight train No. 66301); ČSAD Střední Čechy, a. s. (RU of the bus).
Consequences:	0 fatality, 0 injury; total damage CZK 328 000,-
Direct cause:	overlap of rear part of the bus into danger zone of the closed level crossing when the freight train was driving through the level crossing.
Contributory factor:	<ul style="list-style-type: none">• the bus driver didn't make sure himself if he had left the level crossing No. P2724 safely;• allow to entry to vehicles whose length exceeds 6.5 meters to level crossings No. P2724 and P2675 without notification of the maximum allowed length of the vehicles;• not taking measures based on the findings of the common inspection of railway crossings No. P2724 and P2675 on 20. 3. 2013.
Underlying cause:	<ul style="list-style-type: none">• inadequate control activities at level crossings No. 2724 and 2675 (sources of danger were not found – unsafe state of adjacent road and poor labelling of the level crossings);• approval and implementation of the project of reconstruction level crossings No. P2724 and P2675 without professional assessment of the impact on ensuring safe driving of long vehicles between level crossings and safety of rail transport operation, due to local adverse ratios of crossing railway with road.
Root cause:	none.

Annex – Summaries of investigations completed in 2015

Recommendations:

Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:

- to check out railways of SŽDC, whether there are other level crossings between them is insufficient distance and drivers of vehicles are not warned by traffic signs about the maximum allowed length of a road vehicle in case the driver would be forced to stop between them;
- In case if other similar level crossing on the railways of IM (SŽDC) would be found, ensure as soon as possible measures to ensure safety on them.

Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure managers (IM) in the Czech Republic.



ACCIDENT SUMMARY

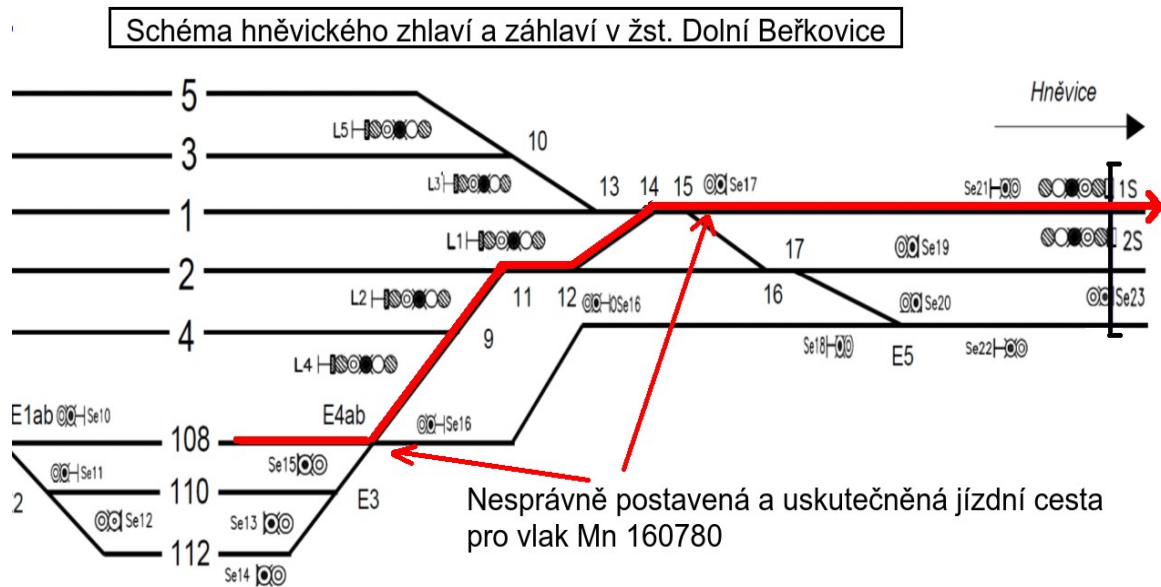
Grade:	incident.
Date and time:	19 th June 2014, 7:53 (5:53 GMT).
Occurrence type:	unauthorized movement.
Description:	unauthorized departure of the freight train No. 160780 from Dolní Beřkovice station along the shunting route to open line section between Dolní Beřkovice and Hněvice stations and putting the long distance passenger train No. 603 at risk.
Type of train:	freight train No. 160780; long distance passenger train No. 603.
Location:	Dolní Beřkovice station, departure signal device 1S, km 459,587.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the freight train No. 160780); ČD, a. s. (RU of the long distance passenger train No. 603).
Consequences:	0 fatality, 0 injury; total damage CZK 0,-
Direct cause:	<ul style="list-style-type: none">• unauthorized movement of freight train No. 160780 from Dolní Beřkovice station to open track line No. 1 without line consent and proper expedition of the train.
Contributory factor:	<ul style="list-style-type: none">• using of incorrect technological processes by station dispatchers of Dolní Beřkovice station while operating and organizing railway transport in cooperation with employees of railway undertaking ČD Cargo, a. s., which has been made possible due to ineffective supervision.
Underlying cause:	<ul style="list-style-type: none">• failure with compliance of technological processes of infrastructure manager for departure and way of securing of its ride.
Root cause:	none.
Recommendations:	1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.: <ul style="list-style-type: none">• by increasing of demands on employees who carry out controls and supervision on all levels of control ensure:<ul style="list-style-type: none">◦ to keep the basic transport documentation flawless so that the instructions in this documentation will be keeping updated and meet the technological processes for operating of track and organization of railway transport;

Annex – Summaries of investigations completed in 2015

- to keep the professional level of train drivers and operational staff so that their work habits and responsibilities will be in compliance with internal regulations and technological processes for operating of track and organization of railway transport.

2) Addressed to Czech National Safety Authority (NSA):

- tightening control of requirements compliance of the issued safety certificate of the infrastructure managers;
- tightening control of requirements compliance of the issued safety certificate of the railway undertakings.



ACCIDENT SUMMARY

Grade:	accident.
Date and time:	8 th July 2014, 4:00 (2:00 GMT).
Occurrence type:	collision of trains with consequent derailment.
Description:	collision of the freight train No. 148231 with freight train No. 63710 with their consequent derailment.
Type of train:	freight train No. 148231; freight train No. 63710.
Location:	open line between Česká Třebová station and branch Parník, line track No. 4, km 247,830.
Parties:	SŽDC, s. o. (IM); Advanced world transport a. s. (RU of the freight train No. 148231); ČD Cargo, a. s. (RU of the freight train No. 63710).
Consequences:	total damage CZK 4 209 147,-
Direct cause:	train driver's operational error (disrespecting of signal "stop" of main (entry) signal LV at branch Parník).
Contributory factor:	exceeding the speed limit by the engine driver of freight train No. 148231.
Underlying cause:	insufficient knowledge of the track line by the train driver of freight train No. 148231, which caused unauthorized movement of this freight train beyond the main (entry) signal LV due to oversight the main signal LV.
Root cause:	none.
Recommendations:	

1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:

- evaluate distances and the way of positioning of main signals on railways operated by SŽDC, and based on that determine maximum horizontal distance from axis of track and horizontal distance above the rail head;
- in case of positioning the main signal somewhere else than recently determined site ensure notification about this situation to a train driver;
- in case of setting up new (alternatively reconstruction of current) main signals, place them according to newly determine distances.

The meaning of safety recommendation mentioned above is keep going with increasing of safety level of railway transport, In this case in particular by positioning new constructed main signals in the way to be placed in visual field of train driver. This position have to allow easy, quick and clear perception of given signal. If the signal wouldn't be in required position, then notification about

Annex – Summaries of investigations completed in 2015

that by signalling to train driver is needed. This safety recommendation does not contest the necessity of ensuring visibility of main signal according to other rules and regulations at all.

2) Addressed to railway undertakings Advanced World Transport a. s.:

- it is recommended for at least two years archive initial documents about rides with train for obtaining the track line knowledge by employees, due to an option of their potential traceability of the actual execution of this ride.

The meaning of safety recommendation is to ensure that the railway undertaking will be able to prove a certain minimum period that its employees meet one of the conditions necessary to obtain a professional qualification for driving a train. Either for the purpose of preventive controls or for investigation accidents and incidents.

3) Addressed to Czech Ministry of Transport:

- include the above safety recommendations into the relevant legislation, in particular to precise requirements for placing the main signals and solution for “atypical” placed main signals. Be more specific about minimum requirements for the area of knowledge of track line conditions governing train drivers, including administration and archiving system.

The meaning of safety recommendation is to set clear, mandatory and uniform rules for all infrastructure managers and railway undertakings on nationwide and regional railways and sidings.

4) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other in frastructure managers (IM) and railway undertakings (RU) in the Czech Republic.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	11 th July 2014, 17:45 (16:45 GMT).
Occurrence type:	level crossing accident.
Description:	collision of regional passenger train No. 4753 at the level crossing with a lorry with consequent derailment.
Type of train:	regional passenger train No. 4753.
Location:	open line between Brno-Chrlice and Brno hl. n. stations, active level crossing P 7179, km 6,006.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the passenger train No. 4753); driver of the lorry (level crossing user).
Consequences:	2 light injuries (train driver and level crossing user); total damage CZK 1 236 797,-
Direct cause:	third party – level crossing user (lorry driver's violation).
Contributory factor:	none.
Underlying cause:	<ul style="list-style-type: none">• driver's failure to respect of the light and sound warning and ride at the level crossing at the time when it was forbidden;• behavior of the driver in front of the level crossing, from distance of visibility of warning cross for safe stop in which he was not careful and did not make sure whether he can safely pass the level crossing;• not giving of priority to railway transport at a crossing of the road with railway track.
Root cause:	none.
Recommendations:	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• it is recommended to increase safety at the level crossings which are equipped with warning lights in accordance with previous safety recommendations of Czech NIB, so that at reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks which are included to European railway system) there was designed and installed only level crossing safety equipment with warning lights and barriers. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic.

Annex – Summaries of investigations completed in 2015

3) Addressed to South Moravian Regional Authority:

- In connection with the provision of Article 19, paragraph 1 of Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 The Rail Safety Inspection Office (CZ NIB) recommend to take own measure forcing implementation listed below in CDV document for the road owner.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	26 th July 2014, 7:51 (5:51 GMT).
Occurrence type:	level crossing accident.
Description:	collision of regional passenger train No. 7901 with a car at level crossing No. P544 at Bratkovice station.
Type of train:	regional passenger train.
Location:	Bratkovice station, level crossing No. P544, km 80,206.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train); driver of the car (level crossing user).
Consequences:	1 fatality, 1 injury; total damage CZK 332 860,-
Direct cause:	<ul style="list-style-type: none">• driver's failure to respect the light and acoustic warning and driving across the level crossing at the time when it was forbidden.
Contributory factor:	<ul style="list-style-type: none">• replacing of mechanical level crossing system equipped with barriers by level crossing system without barriers at the level crossing No. P544 as part of the rationalization of the station interlocking equipment and level crossing system at the Bratkovice station.
Underlying cause:	<ul style="list-style-type: none">• violation of the Act no. 361/2000 Coll. by the car driver before entering on the level crossing.
Root cause:	none.
Recommendations:	<ol style="list-style-type: none">1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:<ul style="list-style-type: none">• to ensure maximum level of safety at existing level crossings secured by level crossing systems with signals without barriers by adding the mechanical barriers. In the process of designing a new level crossings not to allow security without mechanical warning (barriers).2) Addressed to Czech National Safety Authority (NSA):<ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other all IMs in the Czech republic;• not to allow, in the case of authorization process of level crossing reconstruction, other security system than light and acoustic warning system equipped with barriers.

Annex – Summaries of investigations completed in 2015



ACCIDENT SUMMARY

Grade:	incident.
Date and time:	27 th July 2014, 17:37 (15:37 GMT).
Occurrence type:	unauthorized movement.
Description:	unauthorized movement of long distance passenger train No. 851 behind the main signal device No. Sc101c, trailing-point movement through the switch No. 196 and putting the passengers of train No. 9344 in danger.
Type of train:	long distance passenger train No. 851; passenger train No. 9344.
Location:	Kolín station, track No. 101b, signal device Sc101c, km 348,709.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the trains).
Consequences:	0 fatality, 0 injury; total damage CZK 292 000,-
Direct cause:	<ul style="list-style-type: none">• train driver's operational error (he did not respect signal "stop" of the main signal Sc101c at Kolín station).
Contributory factor:	<ul style="list-style-type: none">• absence of technical equipment at Kolín station that would prevent the train from passing signal at danger.
Underlying cause:	<ul style="list-style-type: none">• failure to comply with technological procedures of RU and IM by the train driver of long distance passenger train No. 851 (he did not follow a signals from IM);• unadapted speed of train so that the locomotive could stop safely in front of the signal "Stop" on main signal), although the train driver was alerted to this signal by signal "Warning" on the previous main signal device 1S and by signal on automatic train control system.
Root cause:	none.
Recommendations:	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• to accept joint conceptional technical or organization measure to prevent this kind of accident/incident or eventually to reduce the consequences in case of failure of the train driver or in case of imminent or real unauthorized movement behind the main signal.

Annex – Summaries of investigations completed in 2015

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to adopt own measure forcing implementation of the above recommendations for other infrastructure managers (IM) and railway undertakers (RU) in the Czech Republic. Because the rail operation and rail transport safety is based on close cooperation between RUs and Ims.

The goal of this safety recommendation is to increase the focus on avoiding situations of potential danger to rail paths of rolling stocks (two trains, shunting against each other). Eventually emergency stop these trains, whose safety are threatened, automatically in case of unauthorized movement behind the main signal.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	30 th August 2014, 16:15 (14:15 GMT).
Occurrence type:	level crossing accident.
Description:	Collision of service train No. 163920 with cyclist at the level crossing for a pedestrian.
Type of train:	service train No. 163920.
Location:	passive level crossing for pedestrian No. P5339, km 77,275 between Slatiňany and Chrudim stations.
Parties:	SŽDC, s. o. (IM); TSS, a. s. (RU of the service train No. 163920); cyclist.
Consequences:	1 injury (cyclist); total damage CZK 28 000,-
Direct cause:	third party – level crossing user (cyclist violation).
Contributory factor:	<ul style="list-style-type: none">• insufficient attention of cyclists;• absence of traffic signs or other measures in front of the level crossing for pedestrian, which would prohibit ride of cyclists.
Underlying cause:	<ul style="list-style-type: none">• failure to respect rules for operation on the road by the cyclist;• failure to comply with construction measure to ensure safety for level crossing users from the side of builder of cycling path;• inadequate procedures in inspection of level crossing No. 5339 from the side of infrastructure manager.
Root cause:	none.

Recommendations:

1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:

- it is recommended to verify related traffic signs at all level crossings which are use only by pedestrians, which are equipped only with warning crosses to ensure safe operation of the railway transport and users of level crossing for pedestrian;
- to consider of installing turnstiles or meander railing that would prevent direct and sudden entrance of cyclists near a level crossings for a pedestrian which are equipped only by traffic signs.

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for all other IM in the Czech Republic.

Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	9 th September 2014, 18:43 (16:43 GMT).
Occurrence type:	accident to person caused by rolling stock in motion.
Description:	a passenger got trapped into the doors of the tram train No. 17 run 206 and consequently towed at ÚMOB Jih tram stop, at Ostrava.
Type of train:	tram train No. 17 run 206 (type T6A5 – CS).
Location:	the City of Ostrava, Horní street, ÚMOB Jih tram stop.
Parties:	Dopravní podnik Ostrava, a. s. (IM and RU of the tram train).
Consequences:	1 serious injury (passenger); total damage CZK 594,-
Direct cause:	<ul style="list-style-type: none">• setting the tram train No. 17 into motion by the tram driver while the passenger was trapped into the doors.
Contributory factor:	<ul style="list-style-type: none">• no respect for the instructions of tram train undertaking – acoustic and lighting signal "Stay in - Stay out", issued by the tram driver immediately before closing the doors of rolling stock. No respect for the prohibition of motion near entry area with a backpack;• a passenger under the influence of alcohol.
Underlying cause:	<ul style="list-style-type: none">• failure to ensure the situation along the tram train on the side of the passengers prior to departure from the tram stop.
Root cause:	none.
Recommendations:	
Addressed to Czech National Safety Authority (NSA):	<ul style="list-style-type: none">• It is recommended to take own measure forcing implementation of the recommendation by all relevant railway (tramway) undertakings in the Czech Republic (with exception of Dopravní podnik Ostrava, a. s., which had already implemented this recommendation):<ul style="list-style-type: none">- to provide all tram types with technical device ensuring that doors will not start closing earlier than after 3 seconds duration of acoustic and visual warning.

Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	11 th November 2014, 17:27 (16:27 GMT).
Occurrence type:	train collision.
Description:	collision of an auxiliary shunting rolling stock with stuck freight train No. 47850.
Type of train:	auxiliary shunting rolling stock (solo running locomotive); freight train No. 47850.
Location:	open line between Petrovice u Karviné station and Odbočka Závada branch, km 289,100.
Parties:	SŽDC, s. o. (IM); Rail Cargo Austria AG (RU of the auxiliary shunting rolling stock); ČD Cargo, a. s. (RU of the freight train No. 47850); Ostravská dopravní společnost, a. s. (owner of locomotive of auxiliary shunting rolling stock).
Consequences:	0 fatality, 0 injury; total damage CZK 471 634,-
Direct cause:	unauthorized movement of the auxiliary shunting rolling stock beyond the spot where it was organized and allowed.
Contributory factor:	<ul style="list-style-type: none">• failure to comply with condition for running on sight by train driver of the auxiliary shunting rolling stock;• exceeding the highest authorized speed and failure to adapt of ride to worse adhesive conditions.
Underlying cause:	<ul style="list-style-type: none">• train driver of the auxiliary shunting rolling stock didn't watch the railway track (kilometre stones) in place ahead of the locomotive of stuck freight train properly.
Root cause:	none.
Recommendations:	1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.: <ul style="list-style-type: none">• reconsider technological process of ride of auxiliary shunting rolling stock for stuck train, when is ride of auxiliary shunting rolling stock realized in direction of the slope against of stuck train. Particularly in relation to the exceeding of the speed limit in the section of the last 1000 meters ahead of the spot of stuck train so that those procedures were tightened even more. In cases where there isn't known the exact place of stuck train, apply tightening of procedures from main (the entrance) signal for the opposite direction.

Annex – Summaries of investigations completed in 2015

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic.



ACCIDENT SUMMARY

Grade:	accident.
Date and time:	16 th November 2014, 6:48 (5:48 GMT).
Occurrence type:	overhead contact line and collector collision.
Description:	overhead contact line damage caused by collector of fast passenger train No. 803 locomotive and consequent bumping into damaged overhead contact line by shunting operation.
Type of train:	long distance passenger train No. 803.
Location:	Hrušovany u Brna station, track No. 1, km 125,150 (Lanžhot st. hranice – Brno hl. n. main line).
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the long distance passenger train No. 803).
Consequences:	0 fatality, 0 injury; total damage CZK 310 075,-
Direct cause:	indeterminate and sudden damage of locomotive collector.
Contributory factor:	none.
Underlying cause:	none.
Root cause:	none.
Recommendations:	

1) Addressed to railway undertakings České dráhy, a. s.:

- to equip gradually all locomotives by technical device, which will provide the train driver a possibility to control the movement of collectors on the overhead contact line (eg. cameras with recording and live streaming to the cab of train driver);
- install on all electric locomotives on collector down position limit switch. The collector would send a signal to the locomotive driver to confirm its bottom locked position;
- for locomotives operated in train sets with control cars extend the recording of the speed indicator of locomotive commands given by switch No. S125 given by locomotive driver from control car.

The purpose of the recommendation is in time detect the collector damage and prevent incidents and accidents of collector damage, or reduce the material damage, eliminate threats to the safety of traffic or due to interference damaged collectors with trains in neighboring track. Due to the increasing number of unspecified and sudden damage to the collectors and overhead contact line to ensure determination of the incident cause and to take effective measure in order to prevent them.

Annex – Summaries of investigations completed in 2015

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other all RU in the Czech republic, who are using electric locomotives.

3) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:

- make an outline and organize specialized training course based on experiences from incidents focused on dealing with the crisis situations or in the case of accident/incident threats.

The purpose of the recommendations is enhance readiness of the RU and IM employees and equip them with new habits for prompt and proper reactions in case of incident. This can make a contribution to reduce the consequences of the accidents or incidents in the future, or even prevent them by proper assess of the situation.

4) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other all IM and RU in the Czech republic.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	21 st November 2014, 22.46 (21.46 GMT).
Occurrence type:	train derailment.
Description:	broken axle pivot of freight train No. 248253 and consequent derailment of two wagons.
Type of train:	freight train No. 248253.
Location:	Ostrava hl. n. station, station track No. 2, km 267,049.
Parties:	SŽDC, s. o. (IM); PKP CARGO, S. A. (RU of freight train No. 248253).
Consequences:	0 fatality, 0 injury; total damage CZK 18 682 000,-
Direct cause:	fatigue fracture of axle No. 018-801833 of wagon No. 82 51 5967 133-7 initialized by surface defects.
Contributory factor:	speeding up of axle pivot rupture No. 018-801833 due to chemical structure of material (increased content of sulphur and phosphorus).
Underlying cause:	none.
Root cause:	none.

Recommendations:

1) Addressed to railway undertaking PKP CARGO, S. A.:

- adjust maintenance system of axles (nondestructive testing) produced in December 1979 in ironworks 1 Maj Gliwice, under the smelting number 56485 to ensure that wagons equipped with these axles will be technically capable and will remain capable until the end of their using.

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendation within the authority over the Railway undertakings (wagon keepers) which are using wagons with axles under the concerned smelting in the Czech Republic as well in the frame of international activities and as a member of the national safety authorities network.

Annex – Summaries of investigations completed in 2015



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	28 th November 2014, 8:20 (7:20 GMT).
Occurrence type:	train derailment.
Description:	derailment of one rolling stock of freight train No. 49792.
Type of train:	freight train No. 49792.
Location:	Bohumín station, transport track No. 27, km 276,529.
Parties:	České dráhy, a. s. (IM); Advanced World Transport, a. s. (RU of freight train No. 49792).
Consequences:	0 fatality, 0 injury; total damage CZK 470 600,-
Direct cause:	<ul style="list-style-type: none">• failure to ensure the required frame rigidity on transport track No. 27 and extension of the track gauge.
Contributory factor:	<ul style="list-style-type: none">• long term permission to driving through a curve of radius 225 m without vertical drop and track transition curves, in track No. 27 at speeds over 50 km/h (10 km/h higher than allowed).
Underlying cause:	<ul style="list-style-type: none">• in curve with radius 225 m without vertical drop and track transition curves, in track No. 27:<ul style="list-style-type: none">◦ the use of wooden rail sleepers, which between km 276,535 to 276,529 caused operability disruption of rail fastening system and frame rigidity due to time and operational wear and tear;◦ using of attachment bolts type R1, which between km 276,535 to 276,529 didn't provide a rigid connection between rail bearing-plate and sleepers as a result of corrosion damaged threads.
Root cause:	<ul style="list-style-type: none">• creation of SMS system through regulations taken over from another IM, with a completely different organizational structure, scope, responsibilities of managers and employees for ensuring the security of rail transport, without harmonizing it with their own SMS elements.

Annex – Summaries of investigations completed in 2015

Recommendations:

1) Address to infrastructure manager České dráhy, a. s.:

- to harmonize SMS elements of operating the national railways and contents uniform technological processes on other railways, to provide responsibilities of managers and workers for safety during railway operation, maintenance, ensuring safe technical parameters, allowed components and their allowed wear.

2) Address to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendation for all other IMs within Czech republic, or more precisely measures in the process of publishing, respectively changing of safety certification of IM in terms of completeness and accuracy of the SMS.

Goal of the safety recommendation is to ensure that a valid certificate of IM correspond to reality and requirements of the SMS.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	1 st December 2014, 8:44 (7:44 GMT).
Occurrence type:	train derailment.
Description:	derailment of 15th wagon of freight train No. 67891 due to stuck bearing and consequent twisting off pivot of the freight wagon.
Type of train:	freight train No. 67891.
Location:	open line between Pačejov and Horažďovice předměstí stations, track No. 1, km 292,845.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the locomotive).
Consequences:	0 fatality, 0 injury; total damage CZK 12 184 150,-
Direct cause:	<ul style="list-style-type: none">• technical fault, stuck bearing and consequent twisting off pivot of the freight wagon on the first axle of bogie "a" and destruction of bearing box.
Contributory factor:	<ul style="list-style-type: none">• malfunction of the hot axle indicator located at the km 322,497, line České Budějovice - Plzeň hl. n.;• dispatchers of railway stations (Pačejov and Horažďovice předměstí) did not report a potentially dangerous malfunction to the train driver even though they were alerted about and they had adequate technical means (TRS system);• dispatchers of stations Pačejov and Horažďovice předměstí have not made arrangements for stopping the train as quick as possible, even though they had been notified about the malfunction and they had adequate technical means.
Underlying cause:	<ul style="list-style-type: none">• insufficient lubrication of internal bearing (PLC 410-13) front axle of chassis "a" wagon series (Falls no. 81 54 6681916-7).
Root cause:	<ul style="list-style-type: none">• a change in the system of implementation of scheduled repairs of wagons from railway undertaking ČD Cargo which has been in effect since 1. 1. 2014. The result has extended mileage of wagons between revision repairs thereby reducing the frequency of scheduled wagons maintenance.

Annex – Summaries of investigations completed in 2015

Recommendations:

1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:

- accelerate the installation of new diagnostic devices for detecting faults on rolling stock complaint with Directive no. 36. To prefer placing those diagnostic devices on lines equipped with remote-controlled interlocking equipment;
- modify the articles No. 3773 and 3774 of internal regulation SŽDC D 1 (or extend the existing) to determine technological processes for employees of IM and RU, in a case that a dangerous technical fault is identified.

2) Addressed to railway undertaking ČD Cargo, a. s.:

- perform the revision of all wagons which have been equipped with the bearing housing of type 59V and their actual mileage since the last revision repair exceeded 130.000 km. This revision has to include at least removing of the bearing housing, disassembling, safety check, bearing lubrication and filling the bearing housing with new lubricant;
- establish within its safety management system the assessment system to improve the bearing condition of wagons in the course of their useful lives, perform records so that it can be identified when the check of axle bearings (maintenance, repair, lubrication, etc...) was carried out.;
- reconsider the system of the planned repairs of towed rolling stocks effective since 1. January 2014 in order to not prolong the mileage of towed rolling stocks with respect to the adopted safety management system.

3) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) and railway undertaking (RU) in the Czech Republic.

Annex – Summaries of investigations completed in 2015



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	15 th December 2014, 20:22 (19:22 GMT).
Occurrence type:	collision with technical device.
Description:	collision of load of freight train No. 50232 with a main departure signal device L1 at Prosenice station, collision with technical device at Přerov station and consequent collision of regional passenger train No. 3333 with main departure signal device L 1 at Prosenice station, which created an obstacle for train No. 3333 caused by collision with train No. 50232.
Type of train:	freight train No. 50232; regional passenger train No. 3333.
Location:	Prosenice station, station track No. 2, main departure signal device L1, km 190,809.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train No. 3333); ČD Cargo, a. s. (RU of the freight train No. 50232); Třinecké železářny, a. s. (customer of freight transport).
Consequences:	0 fatality, 0 injury; total damage CZK 2 137 903,-
Direct cause:	<ul style="list-style-type: none">• disruption of the cross-section of station track No. 2 at Prosenice station by loose 9th roll of wire loaded in the 2. layer on freight wagon (type Res 31 54 3939 681-5).
Contributory factor:	none.
Underlying cause:	<ul style="list-style-type: none">• use of freight wagon with the load whose storage and fixation did not meet the safe operation requirements of rail transport and loading Directive UIC;• the railway undertaking did not detect during security controls (since 2006), that save and load securing did not meet the requirements for the safe operation of railway transport, and Loading Directive UIC.
Root cause:	<ul style="list-style-type: none">• checking procedure of the correct position and securing of this specific kind of load of rolls of wire.

Annex – Summaries of investigations completed in 2015

Recommendations:

1) Addressed to railway undertaking ČD Cargo, a. s.:

- determine procedures for checking the correct loading and fixation of this specific load of rolls of wire.

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other railway undertakings (RU) in the Czech Republic.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	28 th January 2015, 6:33 (5:33 GMT).
Occurrence type:	collision of the train with an obstacle with the consequent derailment.
Description:	collision of regional passenger train no. 15501 with an obstacle – rockslide with consequent derailment.
Type of train:	regional passenger train No. 15501.
Location:	open line between Poniklá and Hrabačov stations, track line, km 10,367.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train No. 15501).
Consequences:	1 serious injury, 11 light injuries; total damage CZK 1 750 000,-
Direct cause:	<ul style="list-style-type: none">• a rockslide onto a railway track in operation.
Contributory factor:	<ul style="list-style-type: none">• leaking of water into a rock face and its cyclic freezing and melting.
Underlying cause:	<ul style="list-style-type: none">• erosion of the rock face.
Root cause:	none.
Recommendations:	<ol style="list-style-type: none">1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:<ul style="list-style-type: none">• to perform regular specialized preventive examinations of (in advance selected) rock faces associated with the preliminary geotechnical surveys as a part of comprehensive inspections;• in case of performing these inspections by SŽDC, s. o. (IM) employees, to determine carrying out these inspections into their job description. Determination of qualification of these employees is needed as well;• in case of performing these inspections by SŽDC, s. o. (IM) employees, determine technological procedures of these inspections.2) Addressed to Czech National Safety Authority (NSA):<ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for all the other IM's in the Czech republic.

The goal of these above mentioned safety recommendations is to carry out regular specialized preventive examinations of the rock faces by qualified staff with special focus on finding out geo-

Annex – Summaries of investigations completed in 2015

technical threats, which are endangering railway safety. It is needed to introduce a kind of system, for keeping the state of the rock faces under control. The state of these rock faces is needed to be regularly checked and the measures to prevent potential threats need to be taken soon enough.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	19 th February 2015, 16:12 (15:12 GMT).
Occurrence type:	uncontrolled movement.
Description:	uncontrolled movement of shunting operation and consequent derailment of 21 freight wagons at Paskov siding.
Type of train:	shunting operation.
Location:	Paskov siding, siding track No. 90, km 9,431.
Parties:	Advanced World Transport, a. s. (IM and RU of the shunting operation).
Consequences:	0 fatality, 0 injury; total damage CZK 21 734 806,-
Direct cause:	<ul style="list-style-type: none">• not terminating of ride of shunting operation at the Staříč district of Paskov siding;• failure to perform a brake test of the shunting operation before ride from Staříč district to the siding track No. 90 at Paskov siding.
Contributory factor:	none.
Underlying cause:	<ul style="list-style-type: none">• failure to interconnect the pressure pipe of air brake between locomotive and first wagon of shunting operation;• failure to detect the unconnected pipe of air brake between locomotive and wagons of shunting operation, due to failure to keep an eye on air pressure gauge displays.
Root cause:	none.
Recommendations:	1) Addressed to infrastructure manager and railway undertaking Advanced World Transport: <ul style="list-style-type: none">• determine the responsibility of management and employees to ensure control of compliance with the rules of operation of rail transport, including procedures and frequency of controls to ensure compliance with existing new and changed technical and operational standards or other prescriptive conditions contained in national legislation, in internal regulations of the RU and by the decisions of government authorities, in technological procedures of the operation of rail transport on sidings;

Annex – Summaries of investigations completed in 2015

- determine a obligation of engine driver to check the connection of the engine and first air braked wagon. That is not a case, when the connection is provided by engine driver himself.

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other all RUs/IMs at all sidings in the Czech republic.



ACCIDENT SUMMARY

Grade:	accident.
Date and time:	27 th February 2015, 19:04 (18:04 GMT).
Occurrence type:	accident to person caused by rolling stock in motion.
Description:	a passenger got trapped in the doors, consequently towed and injured by regional passenger train No. 3237.
Type of train:	regional passenger train No. 3237.
Location:	Černotín railway stop, line track No. 1, km 7,850.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train No. 3237).
Consequences:	1 light injury; total damage CZK 5 400,-
Direct cause:	<ul style="list-style-type: none">• setting the regional passenger train No. 3237 in motion with the passenger who was trapped in the last door of train through her travel bag in Černotín railway stop.
Contributory factor:	<ul style="list-style-type: none">• the electric unit (type 460) was not equipped with device, which doesn't allow departure of the train, if doors of the train are not completely closed.
Underlying cause:	<ul style="list-style-type: none">• unconscious mistake of driver of the train No. 3237 before departure from railway stop Černotín, which resulted:<ul style="list-style-type: none">◦ not detection of passenger, who was locked in the rear doors of the train;◦ not detection of signal of opened doors at the cab of train driver.
Root cause:	<ul style="list-style-type: none">• failure to take adequate measures by the railway undertaking of the train No. 3237 to prevent incidents based on taking account to final report and safety recommendations issued by Railway Safety Inspection Office where was recommended to the railway undertaking, besides other things to improve traction control system of train unit type 460 in order to disable setting the train in motion unless the doors are completely closed.

Annex – Summaries of investigations completed in 2015

Recommendations:

1) Addressed to railway undertaking České dráhy, a. s.:

- It is recommended to equip traction control system of the train unit type 460 and 560 with a new system, in order to prevent setting the train in motion unless the doors are completely closed;
- until the realization the above mentioned safety recommendation to intensify the control activities focused on management processes of train drivers of units 460 and 560, before setting the train in motion at stops and stations.

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other all RUs in the Czech republic, which use these electric units (type 460 and 560).



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	24 th March 2015, 6:59 (5:59 GMT).
Occurrence type:	level crossing accident.
Description:	collision of regional passenger train No. 18422 with an obstacle – a lorry at the level crossing with consequent derailment.
Type of train:	regional passenger train No. 18422.
Location:	level crossing No. 6382 between Obrataň and Chýnov stations, km 47,208.
Parties:	ČD, a. s. (RU of the regional passenger train); Správa železniční dopravní cesty, s. o. (IM); car driver (level crossing user).
Consequences:	12 injured; total damage CZK 7 878 862,-
Direct cause:	<ul style="list-style-type: none">• third party – level crossing user (car driver's violation);• driver's failure to respect of the light warning of the level crossing.
Contributory factor:	exceeding the speed limit in front of a level crossing by the driver of the lorry.
Underlying cause:	<ul style="list-style-type: none">• truck driver's behaviour before proceeding over the level crossing: oversight of the warning traffic signs, the driver overlooked the warning traffic signs and he wasn't careful enough and did not make sure, whether he can safely proceed over the level crossing;• not giving priority to railway transport at a level crossing.
Root cause:	none.
Recommendations:	<p>1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:</p> <ul style="list-style-type: none">• it is recommended to increase safety at the level crossings equipped with warning lights in accordance with previous safety recommendations of Czech NIB, so that at reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks included to European railway system) were designed and installed only level crossing safety equipment with warning lights and barriers. <p>2) Addressed to Czech National Safety Authority (NSA):</p> <ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic.

Annex – Summaries of investigations completed in 2015

3) Addressed to Ministry of Transport:

- incorporating the above safety recommendation for the infrastructure manager to Act no. 266/1994 Coll., on Railways, as amended.

The point of this safety recommendation is further increase safety level at level crossings and during railway lines modernizations, by installing safety equipment with warning lights and barriers. This kind of safety equipment seems to be the most safe for both, road and rail transport, except flyover crossing. It is the most efficient measure to prevent repeating the same accidents/incidents with identical causes: i. e. oversight of the warning traffic signs (warning lights) without barriers. This measure could in the future prevent the vast majority of accidents/incidents, and ensure health protection of passengers and staff as a consequence of negotiations of road users. It can't be miss out a today's reality, that at railways are used more and more lightweight construction trains much more vulnerable to get damaged by collisions, and are more predisposed to derailment with much worse consequences. The Czech NIB also recommend for consideration further options of technical solutions, applicable for roads, to increase safety at above mentioned level crossing.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	4 th May 2015, 8:56 (6:56 GMT).
Occurrence type:	collision of the train with technical device of railway (buffer stop).
Description:	collision of regional passenger train No. 13659 with a technical device - buffer stop on dead-end track with consequent derailment.
Type of train:	regional passenger train No. 13659.
Location:	Hanušovice station, dead-end track No. 105, km 71,908.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train No. 13659).
Consequences:	0 fatality, 0 injury; total damage CZK 46 443,-
Direct cause:	<ul style="list-style-type: none">• permission to entry of the train to the railway station Hanušovice without proper setting of the train route.
Contributory factor:	none.
Underlying cause:	<ul style="list-style-type: none">• failure of the double-check of the correct setting of switches No. 1 and 2 at train route before permission to entry of the train Os 13659 to the station Hanušovice was given by the main entrance signal device.
Root cause:	none.
Recommendations:	not issued.



ACCIDENT SUMMARY

Grade:	accident.
Date and time:	25 th May 2015, 11:15 (9:15 GMT).
Occurrence type:	level crossing accident.
Description:	collision of passenger train No. 14523 at the level crossing with a truck with consequent derailment.
Type of train:	the regional passenger train No. 14523.
Location:	active level crossing P7140 equipped with warning lights, km 4,740 between Kobylí na Moravě and Velké Pavlovice stations.
Parties:	Správa železniční dopravní cesty, státní organizace (IM); České dráhy, a. s. (RU); driver of the truck Liaz (level crossing user).
Consequences:	0 fatality, 19 injuries; total cost CZK 3 400 409.
Direct cause:	unauthorized entry of a truck onto a level crossing when acoustic and visual warnings were being given.
Underlying cause:	<ul style="list-style-type: none">• driver's failure to respect acoustic and visual warnings of the level crossing safeguarding equipment.• truck driver's behaviour before proceeding over the level crossing, the driver wasn't careful enough and did not make sure, whether he can safely proceed over the level crossing;
Root cause:	none.
Recommendations:	<ol style="list-style-type: none">1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.:<ul style="list-style-type: none">• improve safety at the level crossing P7140 by installing barriers;• based on previous safety recommendations of the Czech NIB, it is recommended, in case of reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks included to European railway system) to design and install only level crossing safety equipment with warning lights and barriers.2) Addressed to Czech National Safety Authority (NSA):<ul style="list-style-type: none">• it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure managers (IM) in the Czech Republic.3) Addressed to Ministry of Transport:<ul style="list-style-type: none">• incorporating the above safety recommendation for the infrastructure manager to Act no. 266/1994 Coll., on Railways, as amended.

Annex – Summaries of investigations completed in 2015

4) Addressed to South Moravian Regional Authority:

- in connection with the provision of Act 30/2001, it's recommended to take own measure to install road marking V18 on the road leading over the level crossing P7140.

The point of these above mentioned safety recommendations is further increase safety level at level crossings and during railway lines modernizations, by installing safety equipment with warning lights and barriers. This kind of safety equipment seems to be the most safe for both, road and rail transport, except flyover crossing. It is the most efficient measure to prevent repeating the same accidents/incidents with identical causes: i. e. oversight of the warning traffic signs (warning lights) without barriers. This measure could in the future prevent the vast majority of accidents/incidents, and ensure health protection of passengers and staff as a consequence of negotiations of road users. It can't be miss out a today's reality, that at railways are used more and more lightweight construction trains much more vulnerable to get damaged by collisions, and are more predisposed to derailment with much worse consequences. The Czech NIB also recommend for consideration further options of technical solutions, applicable for roads, to increase safety at above mentioned level crossing, eg. optical psychological brake – which could form another optical or acoustic warning before a level crossing. This leads driver to reduce speed, thereby increasing attention and when any of these factors could increase the reaction time for drivers, who are approaching the railway crossing.



ACCIDENT SUMMARY

Grade:	accident.
Date and time:	24 th June 2015, 13:21 (11:21 GMT).
Occurrence type:	level crossing accident.
Description:	collision of regional passenger train No. 2710 at the level crossing with a van.
Type of train:	regional passenger train No. 2710.
Location:	active level crossing P8143 equipped with warning lights, km 8,985 between Sudoměřice nad Moravou and Strážnice stations.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train No. 2710); driver of the van (level crossing user).
Consequences:	1 fatality (driver of the van); 2 light injuries (passengers in the train); total damage CZK 373 263,-
Direct cause:	unauthorized entry of a van onto a level crossing at a time when acoustic and visual warnings were being given.
Contributory factor:	none.
Underlying cause:	<ul style="list-style-type: none">• behaviour of the van driver in front of the level crossing; the car driver was not careful enough and did not make sure whether he can safely pass the level crossing;• van driver's failure to respect visual and acoustic warning. Ride at the level crossing at the time when it was forbidden;• not giving of priority to railway transport at the level crossing.
Root cause:	none.
Recommendations:	1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.: <ul style="list-style-type: none">• improve safety at the level crossing P8143 by installing barriers;• it is recommended to increase safety at the level crossings which are equipped with warning lights in accordance with previous safety recommendations of Czech NIB, so that at reconstruction and modernization of railway tracks and the level crossings (not only at railway tracks which are included to European railway system) there was designed and installed only level crossing safety equipment with warning lights and barriers.

Annex – Summaries of investigations completed in 2015

2) Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure forcing implementation of the above recommendations for other infrastructure manager (IM) in the Czech Republic.

3) Addressed to Czech Ministry of Transport:

- it is recommended to introduce the level crossing safety improvement measure, as mentioned above, for infrastructure managers (IM) into act No. 266/1994.

3) Addressed to town office Strážnice:

- in connection with the provision of Act 30/2001, it's recommended to take own measure to install road markings V5 and V18 on the main direction of the road leading the level crossing P8143.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	29 th June 2015, 14.43 (12.43 GMT).
Occurrence type:	train derailment.
Description:	broken axle pivot of freight train No. 146893 and consequent derailment of one wagon.
Type of train:	freight train No. 146893;
Location:	open line between Hranice na Moravě and Drahotuše stations, track line No. 2, km 208,792.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the freight train No. 146893); CTL KOLZAP Sp. z o. o.
Consequences:	0 fatality, 0 injury; total damage CZK 26 007 791,-
Direct cause:	<ul style="list-style-type: none">fatigue fracture of axle No. 018970164 of freight wagon No. 33 51 7984 332-1 initialized by surface defects.
Contributory factor:	none.
Underlying cause:	<ul style="list-style-type: none">failure to provide maintenance to the extent that would carry out that the technical condition of the freight wagon will meet the requirements throughout its use for the operation of railway transport.
Root cause:	none.
Recommendations:	
1) Addressed to railway undertaking ČD Cargo, a. s.:	<ul style="list-style-type: none">to discuss a strict implementation of chapter 2, article 7, para. 7.1, general agreement on the use of rolling stocks, as amended with the holder of derailment freight wagon (CTL KOLZAP Sp. z o. o.) in order to ensure that the technical conditions of the freight wagons will meet the requirements throughout their use for the operation of railway transport;to discuss with the holder of derailment freight wagon (CTL KOLZAP Sp. z o. o.) and with other holders of the same kind of wagons a possibility to equip wagons (especially those used for RID transports) with pneumatic derailment detectors.
2) Addressed to Czech National Safety Authority (NSA):	<ul style="list-style-type: none">it is recommended to take own measure forcing implementation of the above recommendation.

Annex – Summaries of investigations completed in 2015

3) Addressed to Poland National Safety Authority (NSA):

- to take own measure towards holder of the derailment freight wagon (CTL KOLZAP Sp. z o. o.), in order to force them to take care about their towed rolling stocks, especially about towed rolling stocks with installed axles produced in ironworks 1 Maja Gliwice in 1986 and earlier, so that the freight wagons will meet the requirements throughout their use for the operation of railway transport.

The goal of issued recommendations is preventing accidents/incidents caused by inadequate technical state of wagons, when one or more wagons are derailed, but without the common related effect – air leakage from the brake pipe and consequent automatic initiating braking performance. The train continues without even noticing it. Noticeable factor, that supports equipping wagons with pneumatic derailment detectors is the IM's attitude, who cut down numbers of stations with crew responsible to check the trains and able to recognize rail vehicle defects. The result is increase of the numbers or length of segments in which the trains are not monitored.



Annex – Summaries of investigations completed in 2015

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	22 nd July 2015, 7:41 (5:41 GMT).
Occurrence type:	level crossing accident.
Description:	collision of long distance passenger train No. 512 with an obstacle – a lorry at the active level crossing.
Type of train:	long distance passenger train No. 512.
Location:	railway track Bohumín – Přerov, Studénka station, active level crossing No. P6501, km 245,044.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the long distance passenger train No. 512); Driver of the lorry (level crossing user).
Consequences:	3 fatalities, 25 injuries; total damage CZK 156 700 000,-
Direct cause:	<ul style="list-style-type: none">• third party – level crossing user (lorry driver violation). Entry onto the level crossing No. P6501 when acoustic and visual warnings were being given, at the time when the train approached to the level crossing.
Contributory factor:	<ul style="list-style-type: none">• failure to escape from the area of level crossing No. P6501 – failure to break the level crossing barriers by the lorry driver, when the lorry was trapped on the level crossing before arrival of the train No. 512.
Underlying cause:	<ul style="list-style-type: none">• driver's failure to respect acoustic and visual warnings of the level crossing safeguarding equipment.
Root cause:	none.
Recommendations:	1) Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.: <ul style="list-style-type: none">• at level crossings equipped by light level crossing system with half barriers, conduct a feasibility study of a new system providing the way of going up and down the barriers. The current system is simultaneous, while the potential new system could be sequential in the sense that the front barrier on the driver side could go down sooner than the opposite one immediately after expiring warning time. Based on this study to implement change of a current system to the new one at all relevant level crossings, especially on multi-track lines;• to prefer for all newly implemented level crossing systems equipped by the light level crossing system with half barriers the system where the barrier on the driver side goes down sooner than the opposite one, immediately after expiring warning time;

Annex – Summaries of investigations completed in 2015

- conduct risk analysis a part of which would be an assessment of local conditions and behaviour of road users within modernisation (reconstruction) or regular control check of level crossings.

2) Addressed to railway undertaking České dráhy, a. s.

- within the training for the position of train driver and follow-up trainings to systematically focus on critical situations (eg. through various simulators or practical training on specific locomotives);
- to mark the area behind the train driver's cab with warnings (inscriptions, or pictograms). Ensure there a free space (escape route for the train driver). To entitle train crew members to give instructions and orders to passengers in order to avoid anything what could prevent the train driver to escape from the cabin in case of danger.

3) Addressed to The Czech National Safety Authority (NSA):

- it is recommended to take its own measure forcing implementation of the above recommendations for other railway undertakings (RUs) in the Czech Republic;
- it is recommended to take its own measure forcing implementation of the above recommendations for other infrastructure managers (IMs) in the Czech Republic;
- in cooperation with the Czech Ministry of Transport to initiate change of Czech standards CSN 34 2650 ed. 2 "Railway signaling equipment - Level crossing safety equipment", as amended so that at level crossings secured by light level crossing system with two half barriers on both sides that go down simultaneously against each other, apply as a matter of priority the system where the barrier on the driver side goes down sooner than the opposite one immediately after expiring warning time;
- in cooperation with the Ministry of Transport of the Czech Republic to consider the possibility of initiating change in the Czech technical standard CSN 34 2650 ed. 2 "Railway signaling equipment - Level crossing safety equipment" as amended so that the signal red and white paint on the inside of the barriers was replaced by a different sign (which does not evoke a ban), or encouraging the driver to leave the level crossing by breaking the barriers.

4) Addressed to Czech Ministry of Transport:

- to expand awareness of road vehicle drivers by the option to break the barriers in the situation, when road vehicle is trapped between the barriers on the level crossing;
- to tighten up the punishments for unauthorized entry of road vehicles and road users onto a level crossing when it is forbidden in order to prevent these situations in advance. At the same time it must also be ensured completely effective detection system of misusing the safety system mentioned above (eg. In the form of security cameras) and impose sanctions.

Annex – Summaries of investigations completed in 2015

