Czech Republic

The Rail Safety Inspection Office

NIB ANNUAL REPORT 2017

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

The Rail Safety Inspection Office

Czech Republic

September 2018

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 2017, 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 2017
- the safety recommendations issued

CONTENTS

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.

Also following Directives amending Directive 2004/49/EC were implemented into the national legislation in set deadlines.

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 (due to the changes of national legislation it was valid only until 31st March 2017),
- detects deficiencies compromising the safety of rail infrastructure and rail transport (due to the changes of national legislation it was valid only until 31st March 2017),
- 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 (due to the changes of national legislation it was valid only until 31st March 2017). Since 1st April 2017 the Rail Safety Inspection Office issues safety recommendations only to NSA, another administration body or another relevant body of different member state.

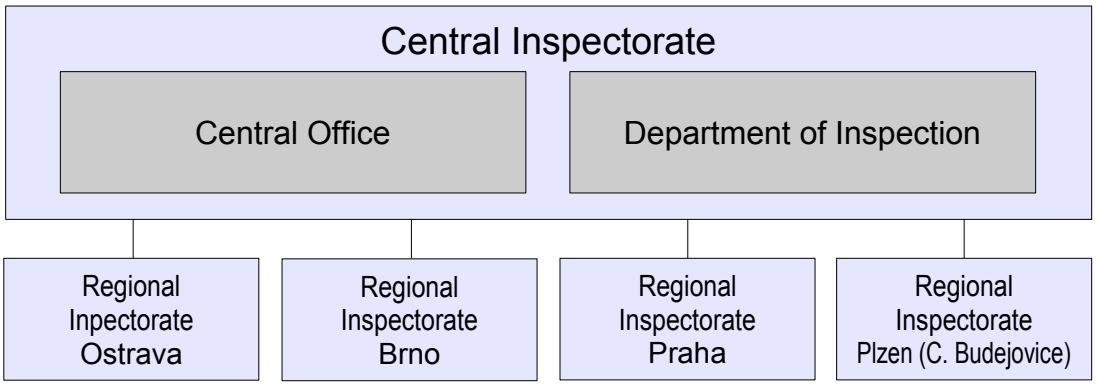
1.3 Organisation

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. Another main activity of the Rail Safety Inspection Office is performing preventative inspections of railway safety (due to the changes of national legislation it was valid only until 31st March 2017). 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

1.3.1 Organizational structure until 31st March 2017

The Rail Safety Inspection Office had a total of **54 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.

1.3.2 Organizational structure since 1st April

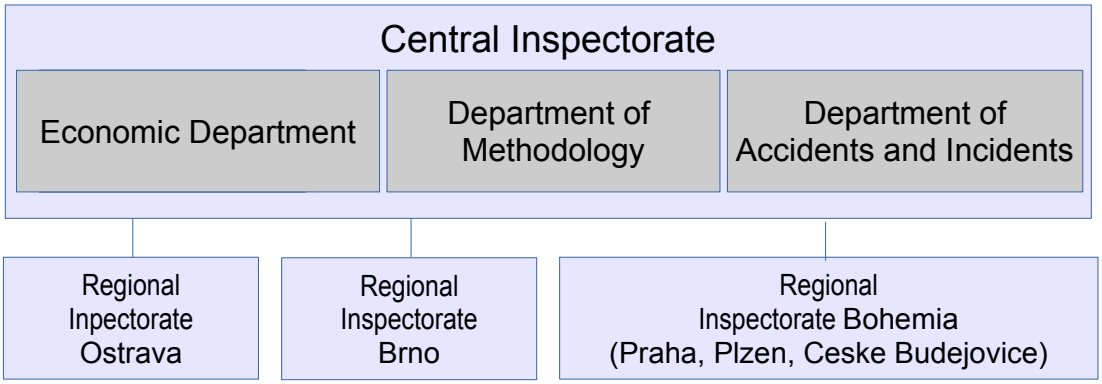
The Rail Safety Inspection Office has a total of **39 employees** in five cities of the Czech Republic (Ostrava, Brno, Praha, Plzen, Ceske Budejovice). It comprises of the Central Inspectorate and three regional inspectorates covering the area of the entire country. The Central Inspectorate consists of the Economic department, the Department of methodology and international cooperation and the Department of accidents and incidents and the central reporting work place.

The Economic department 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 methodology and international cooperation creates and improves methodology for investigations, manages staff training and mediates communication with EU bodies.

The Department of accidents and incidents and the central reporting work place maintain accident investigation including the co-ordination of the regional inspectorates' activities and provide 24/7 reporting office for notification of accidents and incidents.

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.



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:

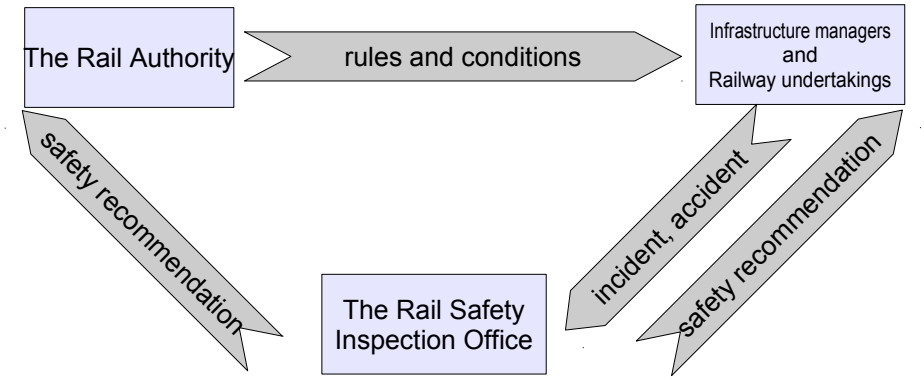
- railways (main lines, regional lines, sidings, underground)
- tram lines
- trolleybus lines
- cable-ways

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 and performing state supervision of railways, according to the national legislation. The Rail Safety Inspection Office is the National Investigation Body independent of any party in the railway sector.

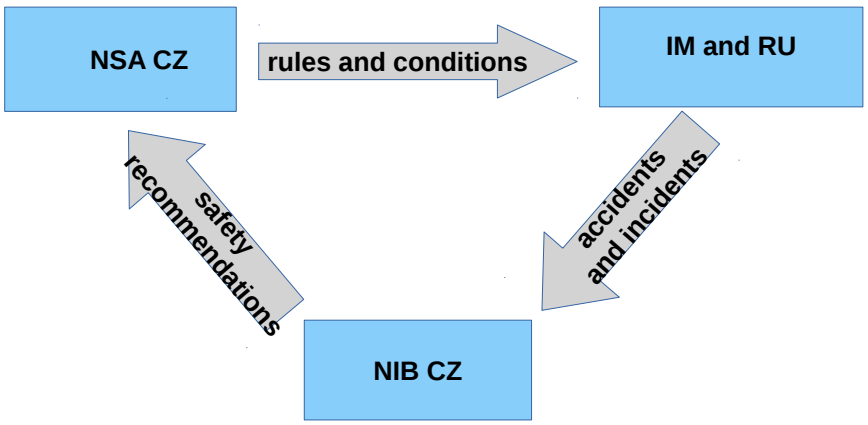
All these authorities are involved in the system of maintaining and improving safety of railways and railway transport:

- **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.

Situation until 31st March 2017



Situation since 1st April



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 (for example notification without any delay, securing of accident site, atc.)
- 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 (due to the changes of national legislation it was valid only until 31st March 2017).

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. Until 31st March 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. Since 1st April at the accident-site The Rail Safety Inspection Office will launch an independent investigation without any verification of steps performed by infrastructure managers and railway undertakings involved.

If The Rail Safety Inspection Office launches an investigation, it will notify The European Union Agency for Railways 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 2017, identifying key trends

Trends of completed investigations (last column of the table) are calculated as difference to previous year (2016).

Type of accidents investigated	Number of accidents	Number of victims		Damages in € (approx.)	Trends in relation to previous year
		Deaths	Ser.injury		
Collisions	3	0	0	707.186,-	-70 %
Derailments	6	0	0	731.693,-	+20 %
LC-accident	7	8	0	766.367,-	+40 %
Fire in RS	0	0	0	0	0 %
Acc. to person	2	1	0	0	+100 %
Other	6	1	0	240.632,-	+50 %

3.2 Investigations completed and commenced in 2017

Investigations completed in 2017

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Completed (date)
14. 9. 2014	Train derailment: between Chotovice – Prevysov stations	i	11. 7. 2017
13. 4. 2016	Other: SPAD in Rudoltice v Cechach station	i	11. 7. 2017
27. 5. 2016	Train derailment: in Praha hlavní nadrazi station	i	29. 8. 2017
24. 7. 2016	Accident to person caused by RS in motion: between Olomouc – Stepanov stations	i	13. 1. 2017
30. 8. 2016	Train derailment: in Kolin station	i	24. 4. 2017
30. 8. 2016	Trains collision: between Vcelnicka - Chvalkov stations	i	21. 4. 2017
13. 9. 2016	Level-crossing accident: km 4,982 between Straznice – Veseli nad Moravou stations	i	14. 3. 2017
15. 12. 2016	Train derailment: in Havlickuv Brod station	i	14. 8. 2017
20. 1. 2017	Level-crossing accident: km 117,860 in Vejprnice station	i	11. 7. 2017
24. 1. 2017	Train derailment: in Velky Senov station	i	30. 6. 2017

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Legal basis**	**Completed** (date)
30. 1. 2017	Level-crossing accident: km 18,809 between Rudoltice v Cechach-Krasikov stations	i	29. 9. 2017
1. 3. 2017	Trains collision: Collision of shunting operation with freight train in Hradec Kralove station	i	3. 8. 2017
4. 4. 2017	Other: Collision of rolling stocks during shunting operation in Usti nad Labem hlavni nadrazi station, north district	i	15. 9. 2017
5. 4. 2017	Other: Derailment during shunting operation in Brno hlavni nadrazi station with consequent collision with rolling stocks	i	9. 10. 2017
5. 4. 2017	Other: SPAD in Kralupy nad Vltavou station	i	23. 8. 2017
9. 4. 2017	Trains collision: between Decin Prostredni Zleb – Dolni Zleb stations	i	12. 9. 2017
8. 5. 2017	Accident to person caused by RS in motion: in „Vlecka Trineckych zelezaren a.s., Trinec“ siding	ii	11. 10. 2017
5. 7. 2017	Other: SPAD in Brandys nad Orlici station	i	16. 11. 2017
12. 7. 2017	Level-crossing accident: km 56,202 in Klatovy station	i	11. 10. 2017
19. 7. 2017	Other: Tram trains collision in The City of Brno – tram stop Tkalcovska	ii	14. 12. 2017
20. 7. 2017	Level-crossing accident: km 35,293 in Bystrice pod Hostynem station	i	18. 12. 2017
27. 7. 2017	Level-crossing accident: km 161,719 in Starec station	i	15. 11. 2017
30. 7. 2017	Level-crossing accident: km 25,744 between Hostomice pod Brdy - Lochovice stations	i	2. 11. 2017
16. 8. 2017	Train derailment: in Praha Cakovice station	i	12. 12. 2017

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 2017

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Legal basis**
20. 1. 2017	Level-crossing accident: km 117,860 in Vejprnice station	i
24. 1. 2017	Train derailment: in Velky Senov station	i

30. 1. 2017	Level-crossing accident: km 5,525 between Kralupy nad Vltavou predmesti – Velvary stations	i
30. 1. 2017	Level-crossing accident: km 18,809 between Rudoltice v Cechach-Krasikov stations	i
1. 3. 2017	Trains collision: Collision of shunting operation with freight train in Hradec Kralove station	i
17. 3. 2017	Level-crossing accident: km 3,438 between Teplice Zamecka zahrada – Prosetice stations	i
31. 3. 2017	Other: Unauthorised train movement other than SPAD in Jihlava mesto station	i
31. 3. 2017	Trains collision with an obstacle: between Praha Smichov – Praha Radotin stations	i
4. 4. 2017	Other: Collision of rolling stocks during shunting operation in Usti nad Labem hlavni nadrazi station, north district	i
5. 4. 2017	Other: Derailment during shunting operation in Brno hlavni nadrazi station with consequent collision with rolling stocks	i
5. 4. 2017	Other: SPAD in Kralupy nad Vltavou station	i
9. 4. 2017	Trains collision: between Decin Prostredni Zleb – Dolni Zleb stations	i
8. 5. 2017	Accident to person caused by RS in motion: in “Vlecka Trineckych zelezaren a.s., Trinec“ siding	ii
23. 5. 2017	Other: Derailment during shunting operation in “Odvalova kolej, Louky nad Olsi” siding	ii
5. 6. 2017	Trains collision with an obstacle: in Prerov station	i
10. 6. 2017	Other: Unauthorised movement of shunting operation other than SPAD in Cesky Brod station	i
12. 6. 2017	Other: Unauthorised train movement other than SPAD in Cesky Brod station	i
5. 7. 2017	Other: SPAD in Brandys nad Orlici station	i
8. 7. 2017	Trains collision with an obstacle: between Hulin - Rikovice and Rikovice – Prerov stations	i
12. 7. 2017	Level-crossing accident: km 56,202 in Klatovy station	i
17. 7. 2017	Level-crossing accident: km 22,694 between Kaznejov – Horni Briza stations	i
19. 7. 2017	Other: Tram trains collision in The City of Brno – tram stop Tkalcovska	ii
20. 7. 2017	Level-crossing accident: km 35,293 in Bystrice pod Hostynem station	i
25. 7. 2017	Level-crossing accident: km 73,647 between Vlkos station – Vracov stop	i
27. 7. 2017	Level-crossing accident: km 161,719 in Starec station	i
27. 7. 2017	Train derailment: in Novosedly station	i
30. 7. 2017	Level-crossing accident: km 25,744 between Hostomice pod Brdy - Lochovice stations	i
2. 8. 2017	Other: Unauthorised train movement other than SPAD	i

	in Kadan Prunerov station	
2. 8. 2017	Other: SPAD of shunting operation in Praha hlavni nadrazi station	i
8. 8. 2017	Other: Derailment during shunting operation in Bohumin Vrbice station	i
12. 8. 2017	Trains collision with an obstacle: between Mostek – Bila Tremesna stations with consequent derailment	i
16. 8. 2017	Train derailment: in Praha Cakovice station	i
18. 8. 2017	Level-crossing accident: km 104,994 in Przno station	i
18. 8. 2017	Level-crossing accident: km 113,102 in Olbramkostel station	i
25. 8. 2017	Level-crossing accident: km 28,870 between Sedlice - Blatna stations	i
27. 8. 2017	Trains collision with an obstacle: between Volyne - Ckyne stations with consequent derailment	i
31. 8. 2017	Train derailment: in Bludov station	i
6. 9. 2017	Accident to person caused by RS in motion: between Jaromer – Ceska Skalice stations	i
11. 9. 2017	Other: Uncontrolled movement of rolling stocks with consequent collision with other rolling stock, obstacle and derailment in “Lovosice, pristav Prosmyky” siding	ii
12. 9. 2017	Other: Overburning of the overhead contact line over the standing rolling stocks in Beroun station	i
20. 9. 2017	Level-crossing accident: km 0,580 in Olomouc hlavni nadrazi station	i
29. 9. 2017	Level-crossing accident: km 169,358 between Kryry - Vroutek stations	i
11. 10. 2017	Other: SPAD in Lipnik nad Becvou station	i
27. 10. 2017	Other: Tram trains collision in The City of Ostrava – between Trebovicka – Zahradky stops	ii
2. 11. 2017	Trains collision: between Lysa nad Labem – Kostomlaty nad Labem stations	i
5. 11. 2017	Other: Tram trains collision in The City of Brno – junction Hybesova - Nadrazni	ii
13. 11. 2017	Level-crossing accident: km 17,427 between Lipa nad Drevici station – Zelechovice nad Drevici stop	i
22. 11. 2017	Level-crossing accident: km 47,208 between Obratan - Chynov stations	i
25. 11. 2017	Other: Uncontrolled movement of rolling stocks with consequent collision with shunting operation and derailment in “Vlecka Trineckych zelezaren a.s., Trinec“ siding	ii
1. 12. 2017	Train derailment: between Libcice nad Vltavou – Kralupy nad vltavou stations	i
4. 12. 2017	Trains collision: in Bylnice station	i
8. 12. 2017	Other: Derailment during shunting operation in Plzen hlavni nadrazi station	i

15. 12. 2017	Other: SPAD in Praha hlavni nadrazi station with consequent collision with an obstacle	i
15. 12. 2017	Other: SPAD of shunting operation in Kolin station	i
23. 12. 2017	Accident to person caused by RS in motion: Towing of the passenger from Ceska Trebova station to the section between Trebovice v Cechach – Rudoltice v Cechach stations	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 2017

Safety Studies completed in 2017

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).

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 2017

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 2017 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 2013–2017)

Rail investigations completed in 2013–2017

The table groups investigations by year of their completion.

Accidents investigated		2013	2014	2015	2016	2017	TOT
Serious accidents (Art 19, 1 + 2)	Train collision	0	0	0	1	0	**1**
	Train collision with an obstacle	0	0	0	0	0	**0**
	Train derailment	2	0	0	0	0	**2**
	Level-crossing accident	-	-	-	-	-	**-**
	Accident to person caused by RS in motion	-	-	-	-	-	**-**
	Fire in rolling stock	-	-	-	-	-	**-**
	Involving dangerous goods	0	0	0	-	-	**0**
Other accidents (Art 21.6)	Train collision	2	0	3	6	3	**14**
	Train collision with an obstacle	3	2	4	3	0	**12**
	Train derailment	7	6	4	5	5	**27**
	Level-crossing accident	4	6	8	5	7	**30**
	Accident to person caused by RS in motion	1	1	2	1	2	**7**
	Fire in rolling stock	0	0	0	0	0	**0**
	Involving dangerous goods	0	0	0	0	0	**0**
Incidents		6	2	1	0	3	**12**
TOTAL		**25**	**17**	**22**	**21**	**20**	**105**

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, all relevant parties (for example NSA, IM, RU, etc.) are obliged to adopt their own preventative safety measures based on the safety recommendation issued.

Implementation of recommendations during 2013 – 2017

Recommendations issued		**Recommendation implementation status**					
		Implemented		**In progress**		**Not to be implemented**	
Year	**[No.]**	**[No.]**	**[%]**	**[No.]**	**[%]**	**[No.]**	**[%]**
2013	**25**	14	56	9	36	2	8
2014	**20**	8	40	9	45	3	15
2015	**25**	5	20	16	64	4	16
2016	**20**	4	20	12	60	4	20
2017	**16**	2	12,5	5	31,25	9	56,25
TOTAL	**109**	**36**	**33**	**55**	**50,5**	**18**	**16,5**

Accidents with safety recommendations issued in 2013 – 2017

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Status of implem.**	**Completed** (date)
12. 9. 2011	Train derailment: in Slatinany station	implemented	3. 1. 2013
7. 5. 2012	Level-crossing accident: km 286,369 in Uhersko station	not implemented	3. 1. 2013
23. 7. 2012	Trains collision with an obstacle: between Strelice - Hrusovany nad Jevisovkou stations	implemented	11. 2. 2013
26. 8. 2012	Trains collision with an obstacle: between Vlastejovice - Ledec nad Sazavou stations	implemented	25. 2. 2013
29. 3. 2012	Other: SPAD in Praha hlavni nadrazi station	partially implemented	26. 3. 2013
1. 11. 2012	Other: Broken axle - The city of Ostrava – tram yard	implemented	12. 4. 2013

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Status of implem.**	**Completed** (date)
28. 7. 2012	Level-crossing accident: km 2,431 in the siding “Vlecka Elektrarna” Opatovice	implemented	26. 4. 2013
31. 3. 2012	Trains collision: between Peruc - Klobuky v Cechach stations	implemented	10. 5. 2013
19. 9. 2011	Trains collision: The City of Praha – tram stop Kotlarka	partially implemented	15. 5. 2013
16. 2. 2012	Other: SPAD between Korenov - Dolny Polubny stations	partially implemented	30. 5. 2013
5. 2. 2013	Trains collision: in Mirosov station	implemented	14. 6. 2013
14. 1. 2013	Accident to person caused by RS in motion – Injury to passenger: in Bystricka stop	implemented	15. 7. 2013
13. 1. 2013	Train derailment: in Vysoke Myto station	implemented	5. 8. 2013
14. 12. 2012	Level-crossing accident: km 320,829 between Prelouc and Recany - Labem stations	partially implemented	16. 8. 2013
4. 2. 2013	Other: Unauthorised train movement other than SPAD in Adamov station	implemented	27. 8. 2013
22. 1. 2013	Other: SPAD in Kolin station	partially implemented	16. 9. 2013
1. 4. 2013	Level-crossing accident: km 61,796 between Lenora station - Lenora stop	implemented	16. 9. 2013
31. 3. 2013	Train derailment: in Odry station	partially implemented	27. 9. 2013
20. 5. 2013	Train derailment: in Nepomuk station	implemented	4. 10. 2013
25. 4. 2013	Other: Broken axle between Klenci pod Cerchovem - Pobezovice stations	implemented	4. 11. 2013
25. 6. 2012	Other: SPAD in Horovice station	not implemented	10. 11. 2013
24. 3. 2013	Train derailment: between Tabor - Chotoviny stations	implemented	20. 11. 2013
2. 5. 2013	Other: SPAD in Kunovice Loucka station	partially implemented	28. 11. 2013
23. 5. 2013	Train derailment: in Kladno station	partially implemented	20. 12. 2013
20. 5. 2012	Train derailment: between Steti - Libechov stations	partially implemented	30. 12. 2013
10. 9. 2012	Train derailment: among Blansko – Adamov – Brno Malomerice stations	partially implemented	24. 1. 2014
18. 11. 2012	Train derailment: in Praha Vrsovice station	implemented	30. 4. 2014
30. 1. 2013	Other: SPAD in Strancice station	partially implemented	3. 6. 2014
24. 2. 2013	Other: Broken wheel between Jesenik - Lipova Lazne stations	implemented	16. 1. 2014
12. 3. 2013	Train derailment: in Prelouc station	not implemented	5. 3. 2014

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Status of implem.**	**Completed** (date)
27. 3. 2013	Other: SPAD in Roztoky u Prahy station	partially implemented	14. 3. 2014
20. 6. 2013	Train derailment: The city of Brno – tram stop Celni	implemented	9. 1. 2014
13. 7. 2013	Level-crossing accident: km 110,525 between Opava zapad - Skrochovice stations	not implemented	13. 1. 2014
21. 7. 2013	Train derailment: in Pardubice hlavni nadrazi station	partially implemented	15. 1. 2014
7. 8. 2013	Level-crossing accident: km 7,527 between Varnsdorf - Rybniste stations	partially implemented	25. 6. 2014
31. 8. 2013	Other: SPAD in Postrelmov station	partially implemented	21. 2. 2014
12. 9. 2013	Level-crossing accident: km 148,648 between Jaromerice nad Rokytnou - Kojetice na Morave stations	implemented	3. 2. 2014
2. 10. 2013	Other: Derailment during shunting operation in Prerov station	partially implemented	6. 5. 2014
3. 11. 2013	Other: Derailment during shunting operation in Brno Malomerice station	implemented	25. 8. 2014
10. 1. 2014	Accident to person caused by RS in motion: The city of Praha – tram stop Palmovka	implemented	6.10. 2014
4. 2. 2014	Trains collision with an obstacle: between Jindrichov ve Slezsku statni hranice – Jindrichov ve Slezsku stations	in progress	1. 9. 2014
7. 3. 2014	Train derailment: in Brno hlavni nadrazi station	implemented	2. 9. 2014
10. 3. 2014	Other: Tram trains collision during shunting operation in The City of Ostrava – tram stop Nova hut jizni braha	implemented	20. 8. 2014
15. 3. 2014	Level-crossing accident: km 61,599 between Cervenka - Moravicany stations	partially implemented	31. 10. 2014
24. 3. 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. 1. 2015
11. 7. 2014	Level-crossing accident: km 6,006 between Brno Chrlice – Brno hlavni nadrazi stations	implemented	4. 3. 2015
30. 8. 2014	Level-crossing accident: km 77,275 between Slatinany – Chrudim stations	not implemented	29. 4. 2015
9. 9. 2014	Accident to person caused by RS in motion: The city of Ostrava – tram stop Horni	partially implemented	14. 5. 2015
1. 12. 2014	Train derailment: between Pacejov – Horazdovice predmesti stations	partially implemented	27. 5. 2015
8. 7. 2014	Trains collision: in Ceska Trebova station with consequent derailment	partially implemented	28. 5. 2015

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Status of implem.**	**Completed** (date)
11. 11. 2014	Trains collision: between Petrovice u Karvine – Odbocka Zavada stations	partially implemented	1. 6. 2015
28. 3. 2014	Other: SPAD in Praha hlavni nadrazi station	not implemented	19. 6. 2015
23. 4. 2014	Level-crossing accident: km 361,191 in Vsetaty station	implemented	19. 6. 2015
24. 3. 2015	Level-crossing accident: km 47,208 between Obratan – Chynov stations	not implemented	10. 8. 2015
21. 11. 2014	Train derailment: in Ostrava hlavni nadrazi station	implemented	11. 8. 2015
13. 3. 2014	Trains collision: between Decin Prostredni Zleb – Decin hlavni nadrazi stations	implemented	19. 8. 2015
28. 11. 2014	Train derailment: in Bohumin station	partially implemented	31. 8. 2015
26. 7. 2014	Level-crossing accident: km 80,206 between Jince - Bratkovice stations	partially implemented	7. 9. 2015
19. 2. 2015	Other: Unauthorised movement of shunting operation other than SPAD in Paskov siding with consequent derailment	implemented	16. 9. 2015
25. 5. 2015	Level-crossing accident: km 4,740 between Velke Pavlovice – Kobyli na Morave stations	in progress	25. 9. 2015
27. 7. 2014	Other: SPAD in Kolin station	partially implemented	30. 9. 2015
15. 12. 2014	Trains collision with an obstacle: in Prosenice station	partially implemented	4. 11. 2015
28. 1. 2015	Trains collision with an obstacle: between Ponikla – Hrabacov stations with consequent derailment	in progress	20.11. 2015
16. 11. 2014	Train collision with an obstacle: in Hrusovany u Brna station	partially implemented	30. 11. 2015
24. 6. 2015	Level-crossing accident: km 8,985 between Sudomerice nad Moravou – Straznice stations	not implemented	1. 12. 2015
27. 2. 2015	Accident to person caused by RS in motion: in Cernotin stop	partially implemented	10. 12. 2015
22. 7. 2015	Level-crossing accident: km 245,044 in Studenka station	in progress	15. 12. 2015
19. 6. 2014	Other: Unauthorised train movement other than SPAD in Dolni Berkovice station	partially implemented	17. 12. 2015
29. 6. 2015	Train derailment: in Prosenice station	partially implemented	29. 12. 2015
17. 9. 2014	Trains collision: in Praha Vysehrad station with consequent derailment	partially implemented	13. 6. 2016
13. 11. 2014	Train derailment: in Pribyslav station	implemented	7. 7. 2016
30. 12. 2014	Trains collision: in Poricany station with consequent derailment	partially implemented	16. 5. 2016

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Status of implem.**	**Completed** (date)
11. 1. 2015	Trains collision with an obstacle: between Rozna – Nedvedice stations	partially implemented	8. 1. 2016
16. 2. 2015	Trains collision: in Bakov nad Jizerou station	partially implemented	30. 3. 2016
28. 3. 2015	Trains collision: between Velke Zernoseky – Litomerice dolni nadrazi stations with consequent derailment	implemented	11. 4. 2016
14. 7. 2015	Trains collision with an obstacle: in Praha Masarykovo nadrazi station with consequent derailment	partially implemented	29. 2. 2016
4. 8. 2015	Trains collision: in Horazdovice predmesti station with consequent derailment	implemented	22. 1. 2016
14. 8. 2015	Level-crossing accident: km 94,356 between Uhersky Ostroh – Ostrozska Nova Ves stations	in progress	7. 4. 2016
7. 9. 2015	Level-crossing accident: km 8,971 in Sluknov station	partially implemented	7. 6. 2016
9. 9. 2015	Accident to person caused by RS in motion: in Golcuv Jenikov station	implemented	29. 6. 2016
14. 9. 2015	Train derailment: between Vlkanec – Golcuv Jenikov stations	not implemented	7. 4. 2016
30. 10. 2015	Trains collision: in Rehlovice station	not implemented	1. 12. 2016
8. 11. 2015	Train derailment: in Drisy station	partially implemented	28. 11. 2016
4. 12. 2015	Level-crossing accident: km 52,066 between Zdarec u Skutce – Hlinsko v Cechach stations	not implemented	15. 7. 2016
11. 12. 2015	Level-crossing accident: km 21,580 in Frydek Mistek station	in progress	6. 6. 2016
21. 3. 2016	Level-crossing accident: km 264,230 between Golcuv Jenikov mesto – Golcuv Jenikov stations	partially implemented	29. 11. 2016
19. 4. 2016	Accident to person caused by RS in motion: in „DKV Suchdol nad Odrou“ siding	in progress	10. 10. 2016
26. 5. 2016	Train derailment: between Dobronin - Jihlava stations	not implemented	14. 12. 2016
10. 7. 2016	Trains collision: in Rotava station	partially implemented	26. 9. 2016
14. 9. 2014	Train derailment: between Chotovice – Prevysov stations	in progress	11. 7. 2017
13. 4. 2016	Other: SPAD in Rudoltice v Cechach station	not implemented	11. 7. 2017
27. 5. 2016	Train derailment: in Praha hlavní nadrazi station	in progress	29. 8. 2017

Date of occurrence	**Title of the investigation** (Occurrence type, location)	**Status of implem.**	**Completed** (date)
24. 7. 2016	Accident to person caused by RS in motion: between Olomouc – Stepanov stations	implemented	13. 1. 2017
30. 8. 2016	Train derailment: in Kolin station	not implemented	24. 4. 2017
30. 8. 2016	Trains collision: between Vcelnicka - Chvalkov stations	implemented	21. 4. 2017
13. 9. 2016	Level-crossing accident: km 4,982 between Straznice – Veseli nad Moravou stations	not implemented	14. 3. 2017
15. 12. 2016	Train derailment: in Havlickuv Brod station	in progress	14. 8. 2017
20. 1. 2017	Level-crossing accident: km 117,860 in Vejprnice station	not implemented	26. 5. 2017
24. 1. 2017	Train derailment: in Velky Senov station	not implemented	9. 6. 2017
30. 1. 2017	Level-crossing accident: km 18,809 between Rudoltice v Cechach-Krasikov stations	in progress	29. 9. 2017
5. 4. 2017	Other: SPAD in Kralupy nad Vltavou station	not implemented	31. 7. 2017
12. 7. 2017	Level-crossing accident: km 56,202 in Klatovy station	not implemented	11. 10. 2017
20. 7. 2017	Level-crossing accident: km 35,293 in Bystrice pod Hostynem station	partially implemented	18. 12. 2017
27. 7. 2017	Level-crossing accident: km 161,719 in Starec station	not implemented	15. 11. 2017
30. 7. 2017	Level-crossing accident: km 25,744 between Hostomice pod Brdy - Lochovice stations	not implemented	11. 10. 2017

4.2 Recommendations issued in 2016

Date of occurrence	**Title of the investigation, Safety recommendation**
14. 9. 2014	Train derailment: between Chotovice – Prevysov stations
Addressed to infrastructure manager Správa železniční dopravní cesty, s. o.: • at all defects of track geometry type IL and IAL to lay down an obligation to make an evidence of measurements after removal of these defects; • reassess, or rather establish clear rules for the subsequent monitoring of repetitive defects of the track geometry type IL and IAL including a specification of any measures. The meaning of this safety recommendation is above all an effort to prevent future	

Date of occurrence	Title of the investigation, Safety recommendation
incidents by establishing clear rules for carrying out the follow-up controls at points of degradation of track geometry, in the case of exceeding the limits of the vertical distance of the track within the interval of continuing measurements. Based on that take appropriate measures.	
13. 4. 2016	Other: SPAD in Rudoltice v Cechach station
Addressed to Czech National Safety Authority (NSA): • It is recommended to use of its powers according to law to ensure at the participating railway undertaking Rail System, s. r. o.: ◦ removal of the detected error in the existing safety management system in respect to the absence of procedures and patterns for documenting safety information and non-establishing the procedure for control of transfer of the most important safety information according to Annex No. 1 of the Decree No. 376/2006 Coll.; ◦ adoption of the safety management system, drafted strictly in accordance with the content requirements according to Annex No. 1 of the Decree No. 376/2006 Coll. and in line with the methodology set out at the NSA's website, in the process of restoration of the "Safety Certificate" in 2017; ◦ control focused on recording of individual acts of the operational treatment "R0" for locomotives so it will be possible to demonstrate compliance with the provisions of the Chapter 4.5 "Control and corrective actions" of its safety management system.	
27. 5. 2016	Train derailment: in Praha hlavní nadrazi station
Addressed to The Czech National Safety Authority (NSA): • it is recommended to adopt own measures towards the IMs to ensure: ◦ creation of the technological procedures for control, assessment of the relevancy of the defects and the way how to repair the cracks of welds of the base plate; ◦ introduction of duty to record all welding works on all parts of the railway superstructure for the IMs.	
24. 7. 2016	Accident to person caused by RS in motion: between Olomouc – Stepanov stations
1) **Addressed** to the railway undertaking České dráhy, a. s.: • to adjust technological procedures so that the train crew in trains with rolling stocks equipped with the automatic door locking function will be obligated to close the	

Date of occurrence	Title of the investigation, Safety recommendation

doors preferably always by using the automatic door locking function before a control over their closure and giving a signal "Standby for departure" or "Permission for departure";

- to retrain employees who operate the central door closing device with all its functionalities;

The purpose of the safety recommendation is to reduce the risk of the ride with the unclosed train doors and the failure of finding this fact by the train crew before giving the signal "Standby for departure" or "Permission for departure"

- to equip, to reconstruct or to modify the device of the central door closing at the towed rolling stock with body type Y (according to UIC 567-1, ie. also type YB70) so that after using this device (when the doors are closed) it will not be possible to manipulate with these doors from inside the rolling stock until the departure of the train and until their safeguarding against opening during the ride by technical device;

- to equip doors with technical equipment for detecting unclosed doors so that:
  - in the rolling stocks which have not been adjusted with the device of the central door closing could the train crew check the status of the train doors without any doubt at the time of control over their closure before giving the signal "Standby for departure" or "Permission for departure";
  - passengers and other persons in the rolling stock will be warned by an optical and acoustic instruction to the unclosed door so they could behave in a way that their own safety, the safety of other passengers and the safety and continuity of the railway transport will not be endangered;

The purpose of these safety recommendations is to eliminate the risk of the ride with unclosed train doors, respectively to eliminate the door opening during the ride of the train and to create conditions for the corresponding behavior of the passengers and other persons at the time of staying in the rolling stock with the body type Y during the ride of the train in a situation when the door is not closed.

- until the realization of the above safety recommendations to adjust technological procedures, namely procedures for the departure of the train so that:
  - the train crew could identify the status of the train doors from their place at the time of the control over closure of the doors – in trains which are assembled with the towed rolling stocks with body type Y (according to UIC 567-1, ie. also type YB70);
  - the train crew will primarily have a duty to check the status of the train doors

Date of occurrence	Title of the investigation, Safety recommendation
	(from the interior of the rolling stock) after departure of the train from a railway station (railway stop); The purpose of this safety recommendation is to create conditions for a clear detection of the status of the train doors before giving the signal "Standby for departure" or "Permission for departure", respectively until the departure of the train and to eliminate the risk of departure of the train with unclosed door from the station (railway stop). 2) **Addressed** to the Czech National Safety Authority (NSA): • it is recommended to take own measure forcing implementation of the above recommendations for other all RUs who use rolling stocks with the same construction of the doors in the Czech republic.
30. 8. 2016	Train derailment: in Kolin station
Addressed to the Czech National Safety Authority (NSA): • to adopt own measure forcing implementation: ◦ to modify the internal control system of the infrastructure managers in order to ensure full compliance with the technological procedures of these infrastructure managers for the detection, recording and removal of defects on the railway superstructure, respectively that deficiencies in the performance of duties under the technological procedures of these infrastructure managers at all levels of control will be detected in time and effective remedies will be taken.	
30. 8. 2016	Trains collision: between Vcelnicka - Chvalkov stations
Addressed to the Czech National Safety Authority (NSA): • to adopt own measures forcing implementation: ◦ to verify that all infrastructure managers have procedures for simplified train operation control in accordance with the Section 19 of the Decree No. 173/1995 Coll.; ◦ to recommend the railway undertakings and the infrastructure managers who use a simplified train operation control to change a transport train traffic schedule including its tools so that in operating control points, in which there is a regular crossing of trains, all trains will be ordered to stop and stay; ◦ to recommend the railway undertakings and infrastructure managers who use a simplified train operation control to install technical equipment, which would exclude the possibility of human failure during organization of railway transport or driving of locomotives that could lead to an accident, on railway lines and	

Date of occurrence	Title of the investigation, Safety recommendation
locomotives. The purposes of the above safety recommendations are: • to ensure that the safety management system of all Czech infrastructure managers will be in line with Czech law and the Directive 2004/49/EU; • to unify the technological processes for train drivers in order to eliminate as much as possible human error which could lead to an unauthorized departure of a train from any operating control point; • to eliminate possible human errors which could lead to unauthorized departure of a train from any operation control point and a subsequent collision with another train by using the technical (safety) devices.	
13. 9. 2016	Level-crossing accident: km 4,982 between Straznice – Veseli nad Moravou stations
1) **Addressed** to infrastructure manager Správa železniční dopravní cesty, s. o.: • as a follow-up to already issued safety recommendations it is recommended to change level crossing system of level crossing No. P5312 to level crossing system equipped with barriers; • based on the fact, that most collisions with worst consequences happens at level crossings equipped only with warning lights without barriers and according to previous recommendations it is recommended to increase safety at the level crossings equipped with warning lights, 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 and for two way road with half folding barriers against each other with system of sequential folding barriers. 2) **Addressed** to Czech Ministry of Transport: • incorporating the above safety recommendation for the infrastructure manager to Act no. 266/1994 Coll., on Railways, as amended. 3) **Addressed** to Czech National Safety Authority (NSA): • it is recommended to adopt of their measures towards ensuring the realization of the above safety recommendation for others infrastructure managers in the Czech Republic.	
15. 12. 2016	Train derailment: in Havlickuv Brod station
Addressed to Czech National Safety Authority (NSA): • it is recommended to take own measure directing to infrastructure managers - in	

Date of occurrence	Title of the investigation, Safety recommendation
2018 at the latest, expand the scopes of regular employee training: ◦ dealing with control activities, repairs and removal of defects in the area of infrastructure, about the problematic of defining the interface at the points of connection of the operating and control elements of the safety device to the movable parts of the switches, due to the adoption of measures to ensure railway traffic safety at the time of infrastructure damage after an extraordinary event, at the time of the operational defect and in case of failure states; ◦ dealing with repairs, inspection and measurement, about the problematic of switches, due to the adoption of measures to ensure railway traffic safety at the time of fixed and moving parts damage after the extraordinary events and at the time of operational failures.	
20. 1. 2017	Level-crossing accident: km 117,860 in Vejprnice station
Addressed to Czech National Safety Authority (NSA): • it is recommended to take own measure for implementation of previously issued the safety recommendations, which have been issued due to increase safety at level crossings, where occurs the most accidents with the worst consequences; • at the level crossing No. 599 occurred to collisions of trains with cars already in 2013 and 2015. The Rail Safety Inspection Office therefore recommends to Czech National Safety Authority to initiate negotiations with infrastructure manager to change of level crossing system of active level crossing No. P599 to level crossing system equipped with a barriers.	
24. 1. 2017	Train derailment: in Velky Senov station
Adressed to the Czech National Safety Authority (NSA): • it is recommended to adopt its own measure forcing that approval of electric switch heating will be constructed only for the whole switch panel of the self-returning switches.	
30. 1. 2017	Level-crossing accident: km 18,809 between Rudoltice v Cechach - Krasikov stations
Addressed to the Czech National Safety Authority (NSA): • to adopt own measures which will ensure in the shortest possible time, that: ◦ it will be verified at all level crossings on roads and local roads in the Czech Republic whether their crossing construction ensure that a free level crossing width is at least 5 m (in case when there was a reconstruction of the level crossing after the Section 37, paragraph 2 of the Act No. 13/1997 Coll. had be-	

Date of occurrence	Title of the investigation, Safety recommendation

come valid);

- the level crossing P6519 and all other level crossings, where the insufficient free level crossing width is detected during the above mentioned process, will be modified to the appropriate state immediately (in case when there was a reconstruction of the level crossing after the Section 37, paragraph 2 of Act No. 13/1997 Coll. had become valid);
- in cooperation with the relevant road administration authorities and the infrastructure manager will be ensured that the horizontal traffic sign V 4 The guiding line will be placed not only on the road from both directions but also at the level crossing P6519 or at all others, where there is the insufficient free level crossing width, eventually the other appropriate measures will be taken to increase safety at and around these level crossings.

Addressed to the Czech Office for Standards, Metrology and Testing:

- to edit the norm ČSN 73 6380 Railway level crossings and pedestrian crossings (hereinafter the norm ČSN 73 6380) according to the norm ČSN 73 6101 Design of highways and motorways (hereinafter the norm ČSN 73 6101) and to the norm ČSN 73 6110 Design of urban roads (hereinafter the norm ČSN 73 6110), especially with respect to the arrangement of directional and elevation ratios in the area of the level crossing and in the section of the road adjacent to the level crossing;
- to implement into the norm ČSN 73 6380 a duty to mark the boundary of the traffic lanes (the guide strips) in the form of a horizontal marking at the level crossings road, where it is possible taking into account the local conditions;
- to determine a requirement in the norm ČSN 73 6380 to ensure that there will be the safety reserve (the safety distance) of the traffic lanes from the edge of the crossing structure at the level crossings, where it is possible taking into account the local conditions;
- to define a relationship between a width of the level crossing road and a width of an adjacent road in the norm ČSN 73 6380 and to avoid a solution where the level crossing road would be wider than the adjacent road and which could lead to a risk that the vehicle gets out of the road;
- to determine an obligation in the norm ČSN 73 6380 to modify the priority of passing vehicles by respective traffic signs in case where the crossing width does not correspond to the minimum required width (the two traffic lanes including the safety reserve);
- to modify the norm ČSN 73 6380 so that the required free width of the levelcrossing road would be at least 6 m, eventually that the minimum traffic lane width at the

Date of occurrence	Title of the investigation, Safety recommendation
	level crossing would be preserved according to the norm ČSN 73 6101 and the norm ČSN 73 6110. It is also recommended to establish an obligation to install a traffic sign indicating a narrower width at the level crossing road and concurrently to incorporate a requirement to the that norm to maintain the width of the road at the level crossing in case where the minimal width of 5 m will remain. **Addressed** to the Ministry of Transport of the Czech Republic: • to extend public knowledge of a location of the uniform identification level crossing numbers at the level crossings, their purpose and a method of their use.
5. 4. 2017	Other: SPAD in Kralupy nad Vltavou station
Addressed to the Czech National Safety Authority (in co-operation with the infrastructure manager SŽDC, s. o.): • to consider the possibility of change the dwarf main route signal device Sc7 to mast signal with taking into account local area terms (for example the configuration of the traction lines) during the reconstruction, the modernization or the repair of the infrastructure in Kralupy nad Vltavou station.	
12. 7. 2017	Level-crossing accident: km 56,202 in Klatovy station
Addressed to the Czech National Safety Authority (NSA): • due to the fact that the RSIO registers two other similar accidents on the railway track Horažďovice předměstí - Domažlice, in Běšiny - Klatovy section,, as well as the fact that the level crossing is located at the place with high frequency of road traffic, it is recommended following the previously issued safety recommendations to the Czech National Safety Authority: ◦ to initiate negotiation of change with the IM - the addition of barriers to this and to other frequented level crossings, which will reduce the probability of the driver's entrance at the level crossing if he does not respond to the light and acoustic warnings.	
20. 7. 2017	Level-crossing accident: km 35,293 in Bystrice pod Hostynem station
Addressed to The Czech National Safety Authority (NSA): • based on the fact that most collisions with worst consequences happen at level crossings equipped only with warning lights without barriers and according to the previously issued recommendations – ref. no.: 877/2012/DI, dated 14. 11. 2012, and the following similar or same ones, it is recommended to increase safety at the level crossings equipped with warning lights, so that only the level crossing system with warning lights and barriers will be designed and installed during the reconstruction and/or the modernization of the railway tracks and of the level crossings (not only at the railway tracks included to the European railway system).	

Date of occurrence	Title of the investigation, Safety recommendation
Addressed to the Municipal Authority of Bystřice pod Hostýnem: • to install the “Give way!” signs (priority signs) at the crossroad of the Sokola Tůmy street and the unnamed street which leads to the level crossing No. P7272, so that the priority in ride will be modified by these priority signs (while driving from the level crossing No. P7272 to the crossroad).	
27. 7. 2017	Level-crossing accident: km 161,719 in Starec station
Addressed to The Czech National Safety Authority (NSA): • it is recommended to take own measure for implementation of previously issued the safety recommendations, which have been issued due to increase safety at level crossings and prevention of similar accidents; • as a follow-up to already issued safety recommendations it is recommended to change level crossing system of the level crossing No. P3652 to a level crossing system equipped with barriers, which from the point of view of the optical barrier, will reduce the probability of the driver's entrance to the railway crossing if a driver does not respond to the light and acoustic warning of the crossing safety equipment.	
30. 7. 2017	Level-crossing accident: km 25,744 between Hostomice pod Brdy - Lochovice stations
Addressed to the Czech National Safety Authority (NSA): • to initiate a negotiation with the IM of change of the safety equipment of the level crossing No. P558 – to change a level crossing system of the level crossing No. P558 to a level crossing system equipped with barriers due to the fact that on this railway crossing already occurred accidents with a road motor vehicle in 2010 and 2016 and that the level crossing is double-track; • as a follow-up to already issued safety recommendations it is recommended to adopt own measures to ensure the realization of these issued safety recommendations, because of the fact that the most collisions with the worst consequences happen at the level crossings equipped only with warning lights without barriers.	

ACCIDENT SUMMARY

Grade: serious accident.

Date and time: 14th September 2014, 21:13 (19:13 GMT).

Occurrence type: train derailment.

Description: derailment of 15 wagon of freight train No. 66399.

Type of train: freight train No. 66399.

Location: open line between Choťovice and Převýšov stations, track line No. 1, km 15,884.

Parties: SŽDC, s. o. (IM);
ČD Cargo, a. s. (RU of the freight train).

Consequences: 0 fatality, 0 injury;
total damage CZK 7 962 405,-

Direct cause:

- exceeding of the limits of the track buckling.

Contributory factor: none.

Underlying causes:

- failure to take effective measures to eliminate the influence of defects of track geometry on the safety of the rail operation;
- unsatisfactory state of the railway substructure affecting the state of track geometry.

Root cause: none.

Recommendations: not issued.

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

- to ensure that the results of controls (focused on track superstructure, which are carried out according to law and internal regulations especially the internal regulation of the IM – SŽDC S 2/3) will be provably documented in an unified registration system of IM;
- to provide (for example in the form of training) full knowledge of the relevant regulations in a field of control activities, including an obligation to registration and to evaluate the results of controls according to law and internal regulations (especially the internal regulation of the IM - SŽDC S 2/3) for all employees performing control activities focused on the state of the track superstructure.

The meaning of these safety recommendations is an effort to prevent future incidents by establishing clear rules for carrying out the follow-up controls at points of degradation of track geometry, in case of exceeding limits of the vertical distance of the track within the interval of continuing measurements. Based on that take appropriate measures.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade: accident.

Date and time: 13th April 2016, 17:23 (15:23 GMT).

Occurrence type: unauthorized movement.

Description: unauthorized movement of locomotive train No. 56255 behind the main departure signal No. S1 and its entry into a train route of freight train No. 43204.

Type of train: solo running locomotive train No. 56255;
freight train No. 43204.

Location: Rudoltice v Čechách station, track No. 1, signal device S1, km 14,521.

Parties: SŽDC, s. o. (IM);
Rail system, s. r. o. (RU of the locomotive train).

Consequences: 0 fatality, 0 injury;
total damage CZK 558 932,-

Direct cause:

- failure of the train brakes caused by gradual leakage of air from the brake system of the brake cylinder No. IV.

Contributory factor: none.

Underlying cause:

- failure to comply the procedures for recording and reporting defects of locomotives by train drivers, which are required by the internal regulations of the railway undertaking;
- performance of the last control of the locomotive before the accident during which the defects in the setting of brake system were not detected and removed; including the absence of records of executions and results of controls, although it is required by the internal regulations of the railway undertaking;
- operating of the locomotive with defects in the braking system, which were not recorded and removed by the railway undertaking before the accident, even though the railway undertaking had known about them (the locomotive was operated in technical condition which was not confirming to the approved technical serviceability).

Root cause:

- unelaborating procedures and patterns for documenting safety information and non-establishing a procedure for control of transfer of the most important safety information according to Annex No. 1 of the Decree No. 376/2006 Coll. in the Chapter 4.4.5 and 4.4.5.1 of the safety management system of the railway undertaking;
- inadequate determination of the purpose of documenting safety information and responsibility for its administration and completeness

in the Chapter 4.4.5 and 4.4.5.1 of its safety management system, based on the above mentioned absence of procedures, patterns and transfer controls.

Recommendations:

Addressed to Czech National Safety Authority (NSA):

- It is recommended to use of its powers according to law to ensure at the participating railway undertaking Rail System, s. r. o.:
  - removal of the detected error in the existing safety management system in respect to the absence of procedures and patterns for documenting safety information and non-establishing the procedure for control of transfer of the most important safety information according to Annex No. 1 of the Decree No. 376/2006 Coll.;
  - adoption of the safety management system, drafted strictly in accordance with the content requirements according to Annex No. 1 of the Decree No. 376/2006 Coll. and in line with the methodology set out at the NSA's website, in the process of restoration of the "Safety Certificate" in 2017;
  - control focused on recording of individual acts of the operational treatment "R0" for locomotives so it will be possible to demonstrate compliance with the provisions of the Chapter 4.5 "Control and corrective actions" of its safety management system.

ACCIDENT SUMMARY

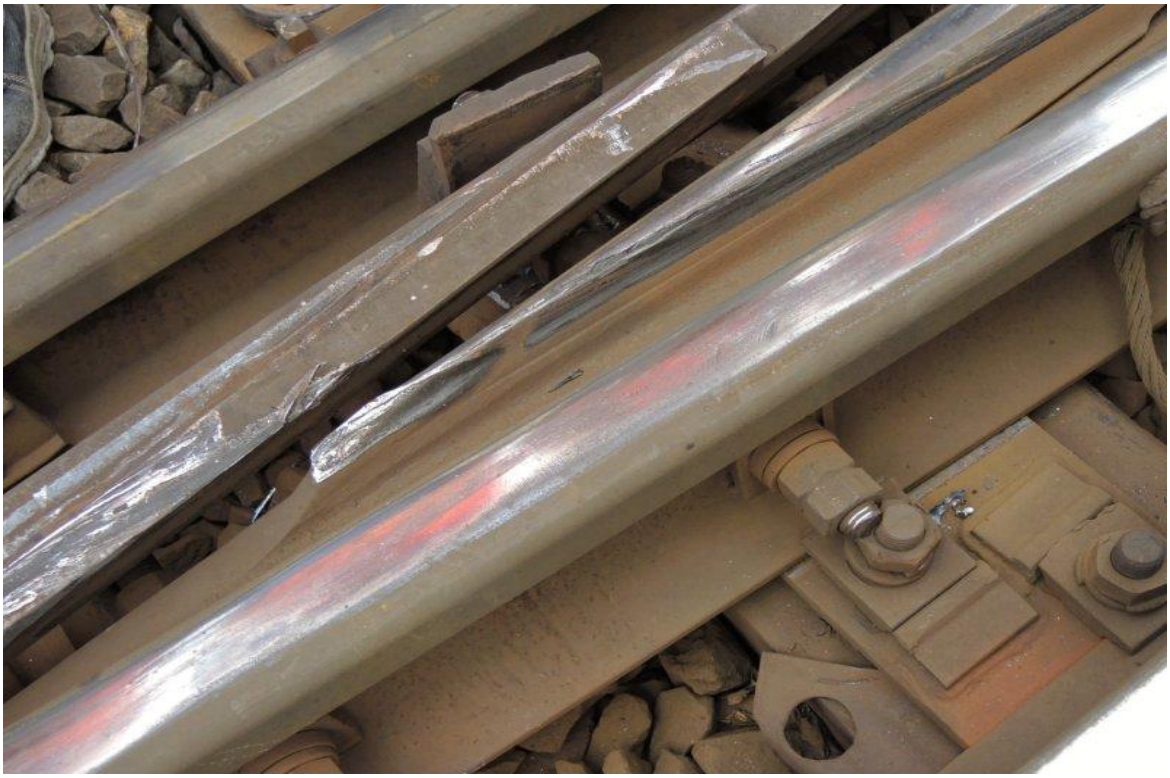
Grade:	accident.
Date and time:	27th May 2016, 11:08 (9:08 GMT).
Occurrence type:	train derailment.
Description:	derailment of the train set No. 560 on its departure from Praha hl. n. station
Type of train:	train set
Location:	Praha hl. n. station, the switch No. 8a/b, km 185,424.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the train set);
Consequences:	0 fatality, 0 injury; total damage CZK 2 917 276,-
Direct cause:	movement of the train set No. 560 over the slip switch No. 8a/b which was in an insufficient technical condition.
Contributory factor:	unprofessional performance of welds on parts of the base plate of the slip switch No. 8a/b.
Underlying cause:	failure to detect an insufficient state of the slip switch No. 8a/b and to not take adequate measures due to the failure to comply the technological procedures of the IM.
Root cause:	none.

Recommendations:

Addressed to The Czech National Safety Authority (NSA):

- it is recommended to adopt own measures towards the IMs to ensure:
  - creation of the technological procedures for control, assessment of the relevancy of the defects and the way how to repair the cracks of welds of the base plate;
  - introduction of duty to record all welding works on all parts of the railway superstructure for the IMs.

Annex – Summaries of investigations completed in 2017



ACCIDENT SUMMARY

Grade:	an accident.
Date and time:	24th July 2016, 16.37 (14.37 GMT).
Occurrence type:	an accident to a person caused by a rolling stock in motion.
Description:	the falling out of the minor passenger from the door during the ride of the long distance passenger train No. 884.
Type of train:	the long distance passenger train No. 884
Location:	an open line between Olomouc hl. n. and Štěpánov stations, km 81,600
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the long distance passenger train no. 884);
Consequences:	1 fatality (the minor passenger); total damage CZK 0,-

Direct cause:

- a spontaneous opening of the entrance door of the towed rolling stock No. 51 54 82-40 377-8 during ride of the train.

Contributory factor: none.

Underlying cause:

- the ride of the train with the unclosed door of the towed rolling stock No. 51 54 82-40 377-8 which was not secured against opening even after activation the automatic door locking function.

Root cause:

- creating a situation which allowed a failure of closing the door before activating of the automatic door locking function.

Recommendations:

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

- to adjust technological procedures so that the train crew in trains with rolling stocks equipped with the automatic door locking function will be obligated to close the doors preferably always by using the automatic door locking function before a control over their closure and giving a signal "Standby for departure" or "Permission for departure";
- to retrain employees who operate the central door closing device with all its functionalities;

The purpose of the safety recommendation is to reduce the risk of the ride with the unclosed train doors and the failure of finding this fact by the train crew before giving the signal "Standby for departure" or "Permission for departure"

- to equip, to reconstruct or to modify the device of the central door closing at the towed rolling stock with body type Y (according to UIC 567-1, ie. also type YB70) so that after using this device (when the doors are closed) it will not be possible to manipulate with these doors from inside the rolling stock until the departure of the train and until their safeguarding against opening during the ride by technical device;
- to equip doors with technical equipment for detecting unclosed doors so that:
  - in the rolling stocks which have not been adjusted with the device of the central door closing could the train crew check the status of the train doors without any doubt at the time of control over their closure before giving the signal "Standby for departure" or "Permission for departure";
  - passengers and other persons in the rolling stock will be warned by an optical and acoustic instruction to the unclosed door so they could behave in a way that their own safety, the safety of other passengers and the safety and continuity of the railway transport will not be endangered;

The purpose of these safety recommendations is to eliminate the risk of the ride with unclosed train doors, respectively to eliminate the door opening during the ride of the train and to create conditions for the corresponding behavior of the passengers and other persons at the time of staying in the rolling stock with the body type Y during the ride of the train in a situation when the door is not closed.

- until the realization of the above safety recommendations to adjust technological procedures, namely procedures for the departure of the train so that:
  - the train crew could identify the status of the train doors from their place at the time of the control over closure of the doors – in trains which are assembled with the towed rolling stocks with body type Y (according to UIC 567-1, ie. also type YB70);
  - the train crew will primarily have a duty to check the status of the train doors (from the interior of the rolling stock) after departure of the train from a railway station (railway stop);

The purpose of this safety recommendation is to create conditions for a clear detection of the status of the train doors before giving the signal "Standby for departure" or "Permission for departure", respectively until the departure of the train and to eliminate the risk of departure of the train with unclosed door from the station (railway stop).

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

- it is recommended to take own measure forcing implementation of the above recommendations for other all RUs who use rolling stocks with the same construction of the doors in the Czech republic.

ACCIDENT SUMMARY

Grade:	an accident.
Date and time:	30th August 2016, 7.20 h (5.20 GMT).
Occurrence type:	a train derailment.
Description:	the derailment of 6 wagons of the freight train No. 360542
Type of train:	the freight train No. 360542
Location:	Kolín station, the switch No. 38, km 346,325
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the locomotive).
Consequences:	0 fatality, 0 injury; total damage CZK 1 931 860,-

Direct cause:

- exceeding of the limit operating deviations of a track gauge in part of the switch No. 38

Contributory factor:

- none.

Underlying causes:

- unsatisfactory technical condition of the block sleepers caused by insufficient fixing of the fasteners;
- failure to adopt adequate measures to ensure the safe operation of railway and railway transport.

Root cause:

- none

Recommendations:

Addressed to the Czech National Safety Authority (NSA):

- to adopt own measure forcing implementation:
  - to modify the internal control system of the infrastructure managers in order to ensure full compliance with the technological procedures of these infrastructure managers for the detection, recording and removal of defects on the railway superstructure, respectively that deficiencies in the performance of duties under the technological procedures of these infrastructure managers at all levels of control will be detected in time and effective remedies will be taken.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade:	a serious accident.
Date and time:	30th August 2016, 7.23 (5.23 GMT).
Occurrence type:	a trains collision
Description:	an unauthorized movement of the regional passenger train No. 203 behind of a front track convergence marker and a consequent collision with the regional passenger train No. 204
Type of train:	the regional passenger train No. 203 the regional passenger train No. 204
Location:	Chválkov operating control point, a place of the unauthorized movement (km 30,408), a place of the trains collision an open line between Včelnička and Chálkov operating control points (km 30,244)
Parties:	Jindřichohradecké místní dráhy, a. s. (IM and RU of the regional passenger trains)
Consequences:	9 injuries (6 passengers, a conductor and a train driver of the regional passenger train No. 204 and a train driver of the regional passenger train No. 203); total damage CZK 12 220 997,-

Direct cause:

- a failure to wait for an arrival of the train No. 204 to Chválkov operating control point and a departure of the train No. 203 from this operating control point.

Contributory factor: none.

Underlying cause:

- a breach of technological procedures of the IM for a centralised traffic control by the train driver of the train No. 203 after arrival at Chválkov operating control point, a failure to wait for the arrival of the train No. 204 and a departure of the train No. 203 against the train No. 204

Root cause: none.

Recommendations:

Addressed to the Czech National Safety Authority (NSA):

- to adopt own measures forcing implementation:
  - to verify that all infrastructure managers have procedures for simplified train operation control in accordance with the Section 19 of the Decree No. 173/1995 Coll.;
  - to recommend the railway undertakings and the infrastructure managers who use a simplified train operation control to change a transport train traffic schedule including its tools so that in operating control points, in which there is a regular crossing of trains, all trains will be ordered to stop and stay;

- to recommend the railway undertakings and infrastructure managers who use a simplified train operation control to install technical equipment, which would exclude the possibility of human failure during organization of railway transport or driving of locomotives that could lead to an accident, on railway lines and locomotives.

The purposes of the above safety recommendations are:

- to ensure that the safety management system of all Czech infrastructure managers will be in line with Czech law and the Directive 2004/49/EU;
- to unify the technological processes for train drivers in order to eliminate as much as possible human error which could lead to an unauthorized departure of a train from any operating control point;
- to eliminate possible human errors which could lead to unauthorized departure of a train from any operation control point and a subsequent collision with another train by using the technical (safety) devices.

ACCIDENT SUMMARY

Grade: accident.

Date and time: 13th September 2016, 13.13 (11.13 GMT).

Occurrence type: level crossing accident.

Description: collision of a regional passenger train No. 2710 with a tractor at the level crossing P8139.

Type of train: the regional passenger train No. 2710.

Location: open line between Strážnice and Veselí nad Moravou stations, active level crossing P8139, km 4,982.

Parties: SŽDC, s. o. (IM);
ČD, a. s. (RU of the regional passenger train).
driver of the tractor (level crossing user).

Consequences: 1 fatality (tractor driver);
9 injuries;
total damage CZK 13 690 000,-

Direct cause:

- driver's failure to respect the light and acoustic warning and driving across the level crossing at the time when it was forbidden and visual and acoustic warnings were being given.

Contributory factor: none.

Underlying causes:

- 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, the car driver wasn't careful enough and didn't make sure whether he can safely pass the level crossing.

Root cause: none.

Recommendations:

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

- as a follow-up to already issued safety recommendations it is recommended to change level crossing system of level crossing No. P5312 to level crossing system equipped with barriers;
- based on the fact, that most collisions with worst consequences happens at level crossings equipped only with warning lights without barriers and according to previous recommendations it is recommended to increase safety at the level crossings equipped with warning lights, 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 and for two way road with half

folding barriers against each other with system of sequential folding barriers.

2) Addressed to Czech Ministry of Transport:

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

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

- it is recommended to adopt of their measures towards ensuring the realization of the above safety recommendation for others infrastructure managers in the Czech Republic.

ACCIDENT SUMMARY

Grade: accident.

Date and time: 15th December 2016, 23:22 (22:22 GMT).

Occurrence type: train derailment.

Description: derailment of locomotive and 3 rolling stocks at the entrance of the train No. 48302 to the Havlíčkův Brod station, on the switch No. 13a/b due to missing switch rail after an extraordinary event.

Type of train: freight train No. 48302.

Location: Havlíčkův Brod station, switch No. 13a/b, km 223,173.

Parties: SŽDC, s. o. (IM);
ČD Cargo, a. s. (RU of the train No. 48302).

Consequences: damage CZK 4 081 959,- (the total damage is not final at the date of the final report).

Direct cause:

- movement of the freight train No. 48302 through the switch when a direct part of the road was a place where the missing switch rail was removed from a previous extraordinary event.

Contributory factor: none.

Underlying cause:

- failure to implement the prescribed measures to ensure the safety on damaged part of the switch No. 13b after a previous extraordinary event.

Root cause: none.

Recommendations:

Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure directing to infrastructure managers - in 2018 at the latest, expand the scopes of regular employee training:
  - dealing with control activities, repairs and removal of defects in the area of infrastructure, about the problematic of defining the interface at the points of connection of the operating and control elements of the safety device to the movable parts of the switches, due to the adoption of measures to ensure railway traffic safety at the time of infrastructure damage after an extraordinary event, at the time of the operational defect and in case of failure states;
  - dealing with repairs, inspection and measurement, about the problematic of switches, due to the adoption of measures to ensure railway traffic safety at the time of fixed and moving parts damage after the extraordinary events and at the time of operational failures.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade: accident.

Date and time: 20th January 2017, 5.33 (4.33 GMT).

Occurrence type: level crossing accident.

Description: collision of regional passenger train No. 7403 with a car at active level crossing No. P599.

Type of train: regional passenger train No. 7403.

Location: Vejprnice station, active level crossing No. P599, km 117,860.

Parties: SŽDC, s. o. (IM);
ČD, a. s. (RU of the regional passenger train);
level crossing user (car driver).

Consequences: 3 fatalities (driver and passengers in the car), 0 injuries;
total damage CZK 197 797,-

Direct cause:

- driver's failure to respect the light and acoustic warning and driving across the level crossing at the time when it was forbidden and visual and acoustic warnings were being given.

Contributory factor: none.

Underlying cause:

- behaviour of the driver in front of the level crossing, the car driver wasn't careful enough and didn't make sure whether he can safely pass the level crossing;
- driver's failure to respect of the light and sound warning and ride at the level crossing at the time when it was forbidden.

Root cause: none.

Recommendations:

Addressed to Czech National Safety Authority (NSA):

- it is recommended to take own measure for implementation of previously issued the safety recommendations, which have been issued due to increase safety at level crossings, where occurs the most accidents with the worst consequences;
- at the level crossing No. 599 occurred to collisions of trains with cars already in 2013 and 2015. The Rail Safety Inspection Office therefore recommends to Czech National Safety Authority to initiate negotiations with infrastructure manager to change of level crossing system of active level crossing No. P599 to level crossing system equipped with a barriers.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade:	an accident.
Date and time:	24th January 2017, 17:41 (16:41 GMT).
Occurrence type:	a train derailment
Description:	unsecured movement with the consequent derailment of the regional passenger train No. 5452 due to aggregation of ice in area of the self-returning switch No. 1sv
Type of train:	the regional passenger train No. 5452.
Location:	Velký Šenov operation control point, the switch No. 1sv, km 16,205.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train);
Consequences:	0 fatality, 0 injury; total damage CZK 1 140 191,-
Direct cause:	a train driver did not obey the instruction of the signal Sv1 before entering into the self-returning switch No. 1sv.
Contributory factor:	none.
Underlying cause:	failure to stop the regional passenger train No. 5452 in front of the self-returning switch No. 1sv and failure to control its correct position at Velký Šenov operation control point.
Root cause:	none

Recommendations:

1) Adressed to the Czech National Safety Authority (NSA):

- it is recommended to adopt its own measure forcing that approval of electric switch heating will be constructed only for the whole switch panel of the self-returning switches.

ACCIDENT SUMMARY

Grade:	an accident.
Date and time:	30th January 2017, 13:33 (12:33 GMT).
Occurrence type:	a level crossing accident.
Description:	the collision of the long distance passenger train No. 1007 with the obstacle – the lorry at the active level crossing equipped with barri ers.
Type of train:	the long distance passenger train No. 1007.
Location:	an open line between Krasíkov and Rudoltice v Čechách stations, the active level crossing No. P6519 equipped with barriers, km 18,809.
Parties:	SŽDC, s. o. (IM); RegioJet, a. s. (RU of the long distance passenger train No. 1007); the lorry driver (a level crossing user).
Consequences:	1 injury (the passenger in the train); total damage CZK 3 825 092 ,-

Direct cause:

- a deadlock of the lorry in astructure gauge of the first line track at the level crossing No. P6519 during a ride of the long distance passenger train No. 1007.

Contributory factors:

- snow and ice on the road in the area before the level crossing;
- a construction and technical state of the level crossing No. P6519, which was not meet a free width requirement according to Section 37, paragraph 2 of the Act No. 13/1997 Coll. and which was threatened safety of the level crossing users due to its technical design.

Underlying causes:

- the lorry driver's behavior after the warning state-on had ended – the lorry driver had wrongly evaluated the structural and traffic-technical condition of the level crossing roadway and the immediate traffic situation on the road of the level crossing before he went at the level crossing;
- the lorry entrance at the level crossing when the traffic situation on the road did not ensure safety movement of the lorry over the level crossing.

Root cause: none.

Recommendations:

Addressed to the Czech National Safety Authority (NSA):

- to adopt own measures which will ensure in the shortest possible time, that:
  - it will be verified at all level crossings on roads and local roads in the Czech Republic whether their crossing construction ensure that a free level crossing width is at least 5 m (in case when there was a reconstruction of the level crossing after the Section 37, paragraph 2 of the Act No. 13/1997 Coll. had become valid);

- the level crossing P6519 and all other level crossings, where the insufficient free level crossing width is detected during the above mentioned process, will be modified to the appropriate state immediately (in case when there was a reconstruction of the level crossing after the Section 37, paragraph 2 of Act No. 13/1997 Coll. had become valid);
- in cooperation with the relevant road administration authorities and the infrastructure manager will be ensured that the horizontal traffic sign V 4 The guiding line will be placed not only on the road from both directions but also at the level crossing P6519 or at all others, where there is the insufficient free level crossing width, eventually the other appropriate measures will be taken to increase safety at and around these level crossings.

Addressed to the Czech Office for Standards, Metrology and Testing:

- to edit the norm ČSN 73 6380 Railway level crossings and pedestrian crossings (hereinafter the norm ČSN 73 6380) according to the norm ČSN 73 6101 Design of highways and motorways (hereinafter the norm ČSN 73 6101) and to the norm ČSN 73 6110 Design of urban roads (hereinafter the norm ČSN 73 6110), especially with respect to the arrangement of directional and elevation ratios in the area of the level crossing and in the section of the road adjacent to the level crossing;
- to implement into the norm ČSN 73 6380 a duty to mark the boundary of the traffic lanes (the guide strips) in the form of a horizontal marking at the level crossings road, where it is possible taking into account the local conditions;
- to determine a requirement in the norm ČSN 73 6380 to ensure that there will be the safety reserve (the safety distance) of the traffic lanes from the edge of the crossing structure at the level crossings, where it is possible taking into account the local conditions;
- to define a relationship between a width of the level crossing road and a width of an adjacent road in the norm ČSN 73 6380 and to avoid a solution where the level crossing road would be wider than the adjacent road and which could lead to a risk that the vehicle gets out of the road;
- to determine an obligation in the norm ČSN 73 6380 to modify the priority of passing vehicles by respective traffic signs in case where the crossing width does not correspond to the minimum required width (the two traffic lanes including the safety reserve);
- to modify the norm ČSN 73 6380 so that the required free width of the level crossing road would be at least 6 m, eventually that the minimum traffic lane width at the level crossing would be preserved according to the norm ČSN 73 6101 and the norm ČSN 73 6110. It is also recommended to establish an obligation to install a traffic sign indicating a narrower width at the level crossing road and concurrently to incorporate a requirement to the that norm to maintain the width of the road at the level crossing in case where the minimal width of 5 m will remain.

Addressed to the Ministry of Transport of the Czech Republic:

- to extend public knowledge of a location of the uniform identification level crossing numbers at the level crossings, their purpose and a method of their use.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	1st March 2017, 20:57 (19:57 GMT).
Occurrence type:	trains collision.
Description:	unauthorized movement of shunting operation behind a departure signal device L6, collision with freight train No. 83044 and consequent derailment of shunting operation.
Type of train:	shunting operation; freight train No. 83044.
Location:	Hradec Králové hl. n. station, departure signal device L6, km 23,066; place of collision: switch No. 100XB, km 23,115.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the shunting operation); ČD Cargo, a. s. (RU of the freight train No. 83044).
Consequences:	0 fatality, 0 injury; total damage CZK 3 178 870,-
Direct cause:	• shunting operation driver's error (he did not respect signal “Stop” of the departure signal device L6 at Hradec Králové hl. n. station).
Contributory factor:	none.
Underlying cause:	• failure to comply with technological procedures of RU and IM by the shunting operation driver (he did not follow a signals from IM).
Root cause:	none.
Recommendations:	not issued.

ACCIDENT SUMMARY

Grade:	incident.
Date and time:	4th April 2017, 22:29 (21:29 GMT).
Occurrence type:	trains collision.
Description:	unauthorized movement of shunting operation (RU METRANS, a. s.) behind a signal device No. Se224, its entry into a route of shunting operation (RU IDS CARGO, a. s.) with consequent collision and derailment.
Type of train:	two shunting operations.
Location:	Ústí nad Labem hl. n. station (north district), signal device No. Se224, km 519,258; place of collision: between switches No. 239 and 241, km 519,362.
Parties:	SŽDC, s. o. (IM); IDS CARGO, a. s. (RU of the shunting operation); METRANS, a. s. (RU of the shunting operation).
Consequences:	0 fatalities, 0 injury; total damage CZK 4 362 291,-
Direct cause:	unauthorized movement of shunting operation (RU METRANS, a. s.) behind the signal device No. Se224 and its entry into a route of shunting operation (RU IDS CARGO, a. s.).
Contributory factor:	none.
Underlying causes:	

- movement of shunting operation (RU METRANS, a. s.) without a permission to shunting behind signal device No. Se224;
- failure to detection by train driver whether the signal device No. Se224 allow the shunting for the intended ride, before putting shunting operation (RU METRANS, a. s.) into motion;
- failure to detection of the signal “Shunting forbidden” on signal device No. Se224 by the shunter and not giving immediately a sign to stop to train driver of shunting operation (RU METRANS, a. s.).

Root cause:	none.
Recommendation:	not issued.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade:	an incident.
Date and time:	5nd April 2017, 13:09 (11:09 GMT).
Occurrence type:	a train derailment.
Description:	derailment of the shunting operation and consequent collision with the standing rolling stocks after unauthorized switching of the switch No. 23 under the moving shunting operation.
Type of train:	the shunting operation; the standing rolling stocks.
Location:	the railway track Lanžhot st. hr. – Brno hl. n., Brno hl. n. station, the stabling district A, the switch No. 23, km 142,282.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the shunting operation and the standing rolling stocks).
Consequences:	0 fatality, 0 injury; total damage CZK 880 288,-

Direct cause:

- unauthorized switching of the switch No. 23 under the last rolling stock of the moving shunting operation.

Contributory factor: none.

Underlying cause:

- failure to observe the technological procedures of the IM during manipulation with the switch No. 23 and failure to observe the Order No. 21/2016 of the head of the operation circuit Brno for monitoring of movement of the shunting operation.

Root cause: none.

Recommendation: not issued.

ACCIDENT SUMMARY

Grade:	incident.
Date and time:	5th April 2017, 15.22.10 (13.22.10 GMT).
Occurrence type:	unauthorized movement.
Description:	unauthorized movement of freight train No. 41363 past the route sig nal Sc7 with signal “Stop” in Kralupy nad Vltavou station and ride to train road for regional passenger train No. 9770.
Type of train:	freight train No. 41363; regional passenger train No. 9770.
Location:	Kralupy nad Vltavou station, track No. 7, route signal Sc7, km 437,331.
Parties:	Správa železniční dopravní cesty, státní organizace, s. o. (IM); Advanced World Transport, a. s. (RU of freight train No. 41363); České dráhy, a. s. (RU of regional passenger train No. 9770).
Consequences:	0 fatality, 0 injury; total damage CZK 0,-

Direct cause:

- train driver's of freight train No. 41363 operational error (he did not respect signal “Stop” of the route signal Sc7 at Kralupy nad Vltavou station).

Contributory factor:

- absence of technical equipment which prevents a train from passing a signal in case of danger.

Underlying cause:

- mistake of train driver's of freight train No. 41363 who watched persons in service level crossing without protection instead watching signal of the rout signal Sc7.

Root cause:

- none.

Recommendation:

Addressed to The Czech National Safety Authority (in co-operation with infrastructure manager SŽDC, s. o.):

- weight up during reconstruction, modernization or repair infrastructure in Kralupy nad Vltavou station, change dwarf rout signal Sc7 as mast signal device with take into account local area terms (for example configuration traction lines).


200 m
R 80 m
Sc 7

ACCIDENT SUMMARY

Grade:	accident.
Date and time:	9th April 2017, 1:18 (8th April 2017 23:18 GMT).
Occurrence type:	trains collision.
Description:	collision of freight train No. 48378 with locomotive train No. 43398
Type of train:	freight train No. 48378; locomotive train No. 43398.
Location:	open line between Děčín-Prostřední Žleb a Dolní Žleb stations, track line No. 2, km 8,833.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the freight train a and the locomotive train).
Consequences:	1 light injury (train driver of locomotive train No. 43398); total damage CZK 2 279 787,-

Direct cause:

- guidance of locomotive train No. 43398 while its movement behind of automatic block main signal device 2-81 with signal “Stop” under condition for running on sight;
- exceeding the maximum permitted speed by 30 $km \cdot h^{-1}$.

Contributory factor: none.

Underlying cause:

- the chosen mode of driving by the train driver of locomotive train, which did not allow to stop the locomotive train before a rolling stocks in a common route with ordered ride of the locomotive train under condition for running on sight;
- the locomotive train driver's failure to realize a duty, that he mustn't exceed speed 30 $km \cdot h^{-1}$, while riding in the border area Děčín – Bad Schandau and on a signal repeater is no traffic light (or only blue light).

Root cause: none.

Recommendation: not issued.

ACCIDENT SUMMARY

Grade:	an accident.
Date and time:	8th May 2017, 1:29 (7th May 2017, 23:29 GMT).
Occurrence type:	an accident to a person caused by a rolling stock in motion.
Description:	the collision of the shunting operation with the person (the head of shunting operation).
Type of train:	the shunting operation.
Location:	the "Vlečka Třineckých železáren a.s., Třinec" siding, the track No. 3832.
Parties:	Třinecké železárny, a. s. (RU and IM).
Consequences:	1 serious injury (the head of shunting operation); total damage CZK 0,-

Direct cause:

- the head of shunting operation did not fulfill his obligations, especially to take care of his safety, to ensure safe operation of rail transport operation and to abstain from anything what could endanger the rail transport operation.

Contributory factor: none.

Underlying cause:

- entry of the head of shunting operation into the profile of the moving shunting operation.

Root cause: none.

Recommendation: not issued.

ACCIDENT SUMMARY

Grade:	incident.
Date and time:	5th July 2017, 12:31 (10:31 GMT).
Occurrence type:	unauthorized movement.
Description:	the unauthorized movement of the freight train No. 60104 behind the main entrance signal device 2L towards track line, which the regional passenger train No. 5010 left in the same direction.
Type of train:	freight train No. 60104.
Location:	Brandýs nad Orlicí station, station line No. 2a, km 265,892, main en trance signal device 2L.
Parties:	SŽDC, s. o. (IM); ČD Cargo, a. s. (RU of the freight train No. 60104).
Consequences:	none.

Direct cause:

- train driver's of freight train No. 60104 operational error (he did not respect signal “Stop” of the main entrance signal device 2L at Brandýs nad Orlicí station).

Contributory factor: none.

Underlying causes:

- failure of the human factor – the train driver of freight train No. 60104. The human error was reflected in the reaction of the train driver of the freight train No. 60104 on the part of the communication from the station dispatcher at Choceň station, who contacted train driver through the radio before the incident;
- the train driver drove the locomotive of the freight train No. 60104 in a way, which didn't ensure compliance with the obligation to stop the train safely in front of the signal device;
- the train driver of the freight train No. 60104 did not act on according to the signals, which have been given by the signal devices and by the train automatic warning system.

Root cause: none.

Recommendations: none.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade: an accident.

Date and time: 12th July 2017, 7:23 (5:23 GMT).

Occurrence type: a level crossing accident.

Description: collision of the regional passenger train No. 17505 with the obstacle – the car at the active level crossing.

Type of train: the regional passenger train No. 17505.

Location: Klatovy station, the level crossing No. 8385, km 56,202.

Parties: SŽDC, s. o. (IM);
ČD, a. s. (RU of the regional passenger train No. 17505);
the car driver (a level crossing user).

Consequences: 1 fatality (the car driver);
total damage CZK 109 471,-

Direct cause:

- driver's failure to respect the light and acoustic warnings and driving at the level crossing at the time when it was forbidden and visual and acoustic warnings were being given.

Contributory factor: none.

Underlying causes:

- driver’s behavior in front of the level crossing, the car driver was not careful enough and did not make sure whether he could safely pass the level crossing;
- driver's failure to respect the light and acoustic warnings and driving at the level crossing at the time when it was forbidden.

Root cause: none

Recommendation(s):

Addressed to the Czech National Safety Authority (NSA):

- due to the fact that the RSIO registers two other similar accidents on the railway track Horažďovice předměstí - Domažlice, in Běšiny - Klatovy section,, as well as the fact that the level crossing is located at the place with high frequency of road traffic, it is recommended following the previously issued safety recommendations to the Czech National Safety Authority:
  - to initiate negotiation of change with the IM - the addition of barriers to this and to other frequented level crossings, which will reduce the probability of the driver’s entrance at the level crossing if he does not respond to the light and acoustic warnings.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade:	serious accident.
Date and time:	19th July 2017, 7:13 h (5:13 GMT).
Occurrence type:	trains collision.
Description:	the collision of tram No. 4 with tram No. 2.
Type of train:	tram No. 4 and tram No. 2.
Location:	Brno, tram track, Cejl street, Tkalcovská tram stop.
Parties:	Dopravní podnik města Brna, a. s. (IM and RU of the trams)
Consequences:	1 fatality; total damage CZK 214 278,-

Direct cause:

- not stopping of the tram No. 4 in front of the standing tram No. 2.

Contributory factor: none.

Underlying cause:

- human factor error of tram driver No. 4. Incorrect setting of priorities by the tram driver – failure to evaluate of initiatives during driving;
- tram control in such a way, which did not ensure the safe operation of rail transport during the traffic situation at the tram stop;
- the tram driver of tram No. 4 did not have full control of the driving of the tram No. 4 at the time when the tram No. 4 approached to the Tkalcovská tram stop.

Root cause: none.

Recommendation: not issued.

ACCIDENT SUMMARY

Grade: an accident.

Date and time: 20th July 2017, 8:36 (6:36 GMT).

Occurrence type: a level crossing accident.

Description: collision of the regional passenger train No. 3905 with the obstacle – the car at the level crossing.

Type of train: the regional passenger train No. 3905.

Location: Bystřice pod Hostýnem station, the level crossing No. P7272, km 35,293.

Parties: SŽDC, s. o. (IM);
ČD, a. s. (RU of the regional passenger train No. 3905);
a car driver (a level crossing user).

Consequences: 1 fatality, 2 injuries;
total damage CZK 619 000,-

Direct cause:

- the driver's failure to respect the light and acoustic warnings and driving at the level crossing at the time when it was forbidden and visual and acoustic warnings were given.

Contributory factor: none.

Underlying cause:

- the car driver did not pay attention to driving sufficiently, which resulted in oversight of the traffic signs situated before the level crossing – failure to register the light and acoustic warnings of the level crossing system of the level crossing No. P7272.

Root cause: none.

Recommendation(s):

Addressed to The Czech National Safety Authority (NSA):

- based on the fact that most collisions with worst consequences happen at level crossings equipped only with warning lights without barriers and according to the previously issued recommendations – ref. no.: 877/2012/DI, dated 14. 11. 2012, and the following similar or same ones, it is recommended to increase safety at the level crossings equipped with warning lights, so that only the level crossing system with warning lights and barriers will be designed and installed during the reconstruction and/or the modernization of the railway tracks and of the level crossings (not only at the railway tracks included to the European railway system).

Addressed to the Municipal Authority of Bystřice pod Hostýnem:

- to install the “Give way!” signs (priority signs) at the crossroad of the Sokola Tůmy street and the unnamed street which leads to the level crossing No. P7272, so that the priority in ride will be modified by these priority signs (while driving from the level crossing No. P7272 to the crossroad).

ACCIDENT SUMMARY

Grade: accident.

Date and time: 27th July 2017, 15:18 (13:18 GMT).

Occurrence type: level crossing accident.

Description: collision of freight train No. 68250 with a car at active level crossing No. P3652.

Type of train: freight train No. 68250.

Location: railway track Šatov st. hr. – Okříšky, Stařeč station, active level crossing No. P3652, km 161,719.

Parties: SŽDC, s. o. (IM);
ČD Cargo, a. s. (RU of the freight train No. 68250);
driver of a car (level crossing user).

Consequences: 1 fatality (driver of the car);
total damage CZK 143 422,-

Direct cause:

- driver's failure to respect the light and acoustic warning and driving across the level crossing at the time when it was forbidden and visual and acoustic warnings were being given.

Contributory factor: none.

Underlying cause:

- insufficient attention during driving the car, that caused oversight of traffic signs in front of the level crossing and failure to register acoustic and visual warnings of the level crossing safety equipment system.

Root cause: none.

Recommendations:

Addressed to The Czech National Safety Authority (NSA):

- it is recommended to take own measure for implementation of previously issued the safety recommendations, which have been issued due to increase safety at level crossings and prevention of similar accidents;
- as a follow-up to already issued safety recommendations it is recommended to change level crossing system of the level crossing No. P3652 to a level crossing system equipped with barriers, which from the point of view of the optical barrier, will reduce the probability of the driver's entrance to the railway crossing if a driver does not respond to the light and acoustic warning of the crossing safety equipment.

Annex – Summaries of investigations completed in 2017

ACCIDENT SUMMARY

Grade: an accident.

Date and time: 30th July 2017, 17:13 (15:13 GMT).

Occurrence type: a level crossing accident.

Description: the collision of the regional passenger train No. 27714 with an obsta cle – the car at the active level crossing.

Type of train: the regional passenger train No. 27714.

Location: the railway track Zadní Třebaň – Lochovice, the active level crossing No. P558 between Hostomice pod Brdy operational control point and Lochovice station, km 25,744.

Parties: SŽDC, s. o. (IM);
ČD, a. s. (RU of the regional passenger train No. 27714);
the car driver (a level crossing user).

Consequences: 1 fatality;
total damage CZK 574 400,-

Direct cause:

- driver's failure to respect the light and acoustic warnings and driving at the level crossing at the time when it was forbidden and visual and acoustic warnings were being given.

Contributory factor: none.

Underlying causes:

- driver’s behavior in front of the level crossing, the car driver was not careful enough and did not make sure whether he could safely pass the level crossing;
- driver's failure to respect the light and acoustic warnings and driving at the level crossing at the time when it was forbidden.

Root cause: none.

Recommendations:

Addressed to the Czech National Safety Authority (NSA):

- to initiate a negotiation with the IM of change of the safety equipment of the level crossing No. P558 – to change a level crossing system of the level crossing No. P558 to a level crossing system equipped with barriers due to the fact that on this railway crossing already occurred accidents with a road motor vehicle in 2010 and 2016 and that the level crossing is double-track;
- as a follow-up to already issued safety recommendations it is recommended to adopt own measures to ensure the realization of these issued safety recommendations, because of the fact that the most collisions with the worst consequences happen at the level crossings equipped only with warning lights without barriers.


810 313-7
30 07 2017 18 50

ACCIDENT SUMMARY

Grade:	incident.
Date and time:	16th August 2017, 7:04 (5:04 GMT).
Occurrence type:	train derailment.
Description:	derailment of the regional passenger train No. 9522 due to switching of the switch No. 1 closely in front of the moving train.
Type of train:	regional passenger train No. 9522.
Location:	Praha-Čakovice station, switch No. 1, km 18,563.
Parties:	SŽDC, s. o. (IM); ČD, a. s. (RU of the regional passenger train No. 9522).
Consequences:	0 fatality, 0 injury; total damage CZK 258 629,-

Direct cause:

- unauthorized switching of the switch No. 1 closely in front of the moving regional passenger train No. 9522.

Contributory factor: none.

Underlying cause:

- failure to observe the technological procedures of the IM during manipulation with the switch No. 1.

Root cause: none.

Recommendation: not issued.