

The translation from Bulgarian language

REPUBLIC OF BULGARIA

MINISTRY OF TRANSPORT, INFORMATION TECHNOLOGY AND COMMUNICATIONS

SPECIALIZED RAILWAY ACCIDENTS AND INCIDENTS INVESTIGATION UNIT (SRAIU)

ANNUAL REPORT



2014



SPECIALIZED RAILWAY ACCIDENTS AND INCIDENTS INVESTIGATION UNIT

Republic of Bulgaria

The present report is published in accordance with:

- Directive 2004/49/EC;
- Railway Transport Act, 2000, publ., effective from 21.06.2015;
- Ordinance №59, 2006, publ., effective from 31.07.2015

These legal acts are available at: <http://www.mtitc.government.bg/page.php?category=390&id=2569>



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PREFACE

Operational programme on “Transport” 2007-2013 (OPT) is one of the seven operational programmes of Republic of Bulgaria, which is co-financed by the Structural Funds and Cohesion Funds of the EU. The budget of the Programme is 2 003 481 163.68 EUR.

The general objective of OPT is to develop a sustainable transport system, respectively of the railway, road and water infrastructure, as well as to stimulate the development of combined transport in harmony with the European Union’s transport policy and the set requirements for the development of the Trans-European transport network for achieving sustainability of the Bulgarian transport system. It is in accordance with the strategic priorities of the national transport policy, set in the Strategy for development of the national transport system of Republic of Bulgaria until 2015:

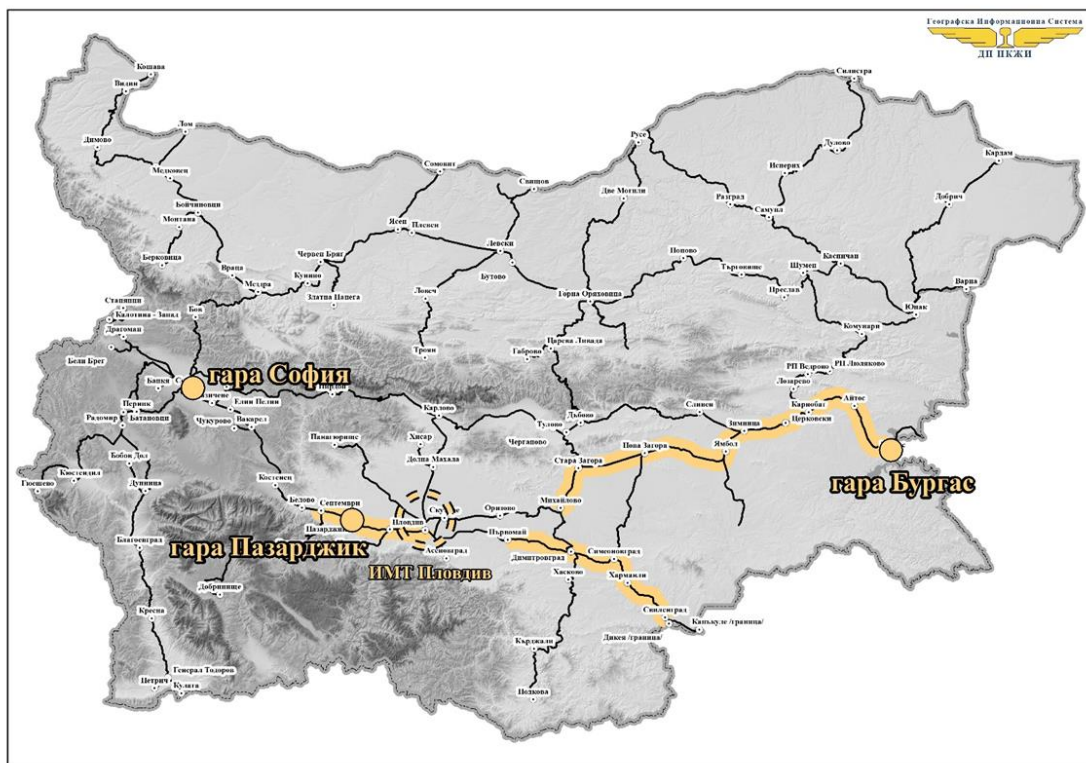
- Effective maintenance, modernization and development of the transport infrastructure;
- Integration of the Bulgarian transport system into the system of the EU;
- Limitation of the transport impact on the environment, health and people;
- Intermodal transport development and Public transport sustainability.

Specific objective of OPT is integration of the national transport system into the transport network of the European Union. The implementation of Priority Axis 1 „Development of the railway infrastructure along the Trans-European and main national transport axes”, aims to construct and develop the key rail infrastructure connections of national, trans-border and European importance and interoperability improvement of the main rail lines. Of national and European importance is the TEN-T network, priority 22 of the Trans-European transport network for the improvement of interoperability along the main rail lines with positive effect on the environment, which complies with Regulation No 1084/2006 of the Council.

During the XVII-nth meeting of the Monitoring Committee of OPT 2007-2013, held within the period 19 – 20 November 2014 was reviewed the progress of the projects implementation in 2014 as well as the project planning within the next programme period for OPT, as follows:



**RAILWAY PROJECTS THAT ARE BEING IMPLEMENTED FOR THE
PROGRAMME PERIOD 2007 – 2013:**

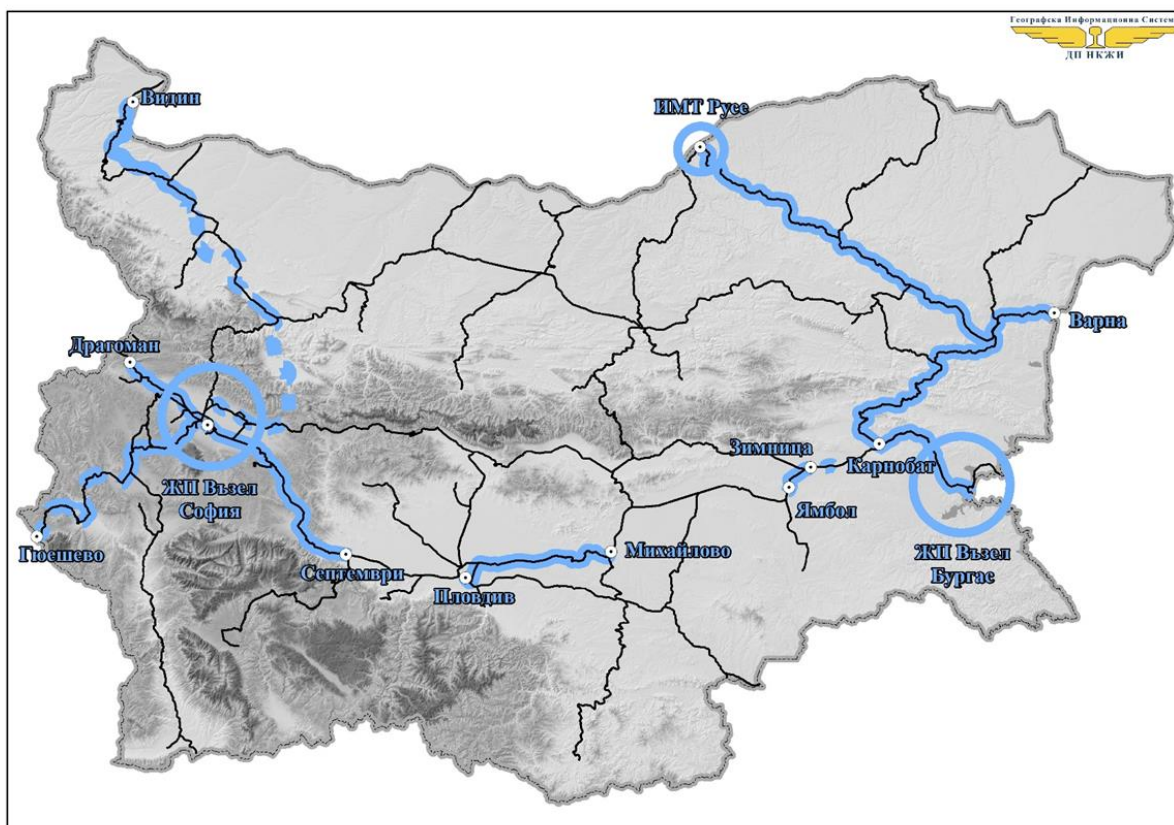


- 1. Reconstruction and electrification of Parvomai-Svilengrad railway line.** The project is with total amount of 142 800 000 BGN. It is expected to be completed in November 2015;
- 2. Rehabilitation of Plovdiv – Burgas railway line.**
The project is with total amount of 342 473 802.00 BGN. There is expected sub-project “Rehabilitation of the Tserkovski-Karnobat railway section and renewal of the permanent way in Karnobat-Burgas section” to be completed in November 2014 and subsequent developments of the project;
- 3. Modernisation of Septemvri-Plovdiv railway line.**
The project is with total amount of 256 630 844.00 BGN. The three sub-projects are expected to be completed in the period August-September 2015;
- 4. Construction of Plovdiv-South-Central district intermodal terminal.**
The project is with total amount of 9 427 595.00 BGN. It is expected the beginning of the construction activities to start in January 2015.
- 5. Rehabilitation of station estates Sofia Central Railway Station, Pazardzhik station and Burgas station.**
The project is with total amount of 73 301 147.00 BGN. The sub-project for Pazardzhik station is completed, and the other two is expected to be completed until January 2016.
- 6. Design and implementation of a system for the resources planning and management (SRPM) at SE NRIC.**



The project is with total amount of 8 638 808 BGN. The expected completion is in August 2015.

**RAILWAY PROJECTS IN PROCESS OF PREPARATION FOR THE PROGRAMME
PERIOD 2014 - 2020.**



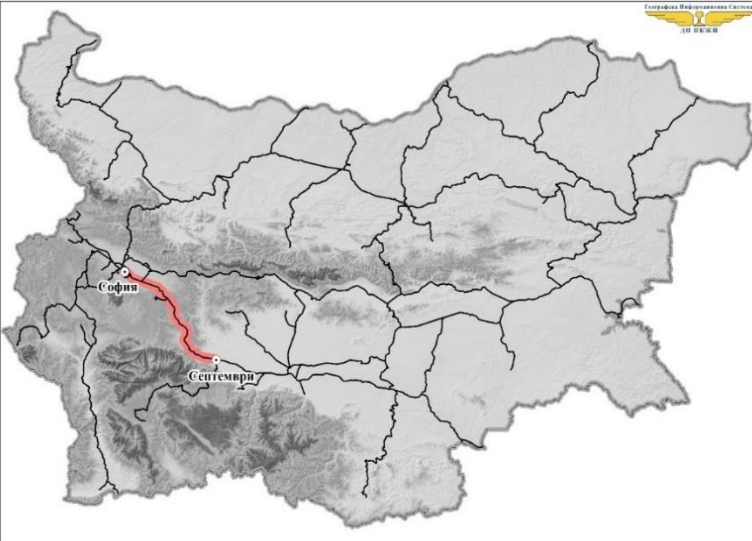
1. Modernisation of Vidin-Sofia railway line.

The project includes:

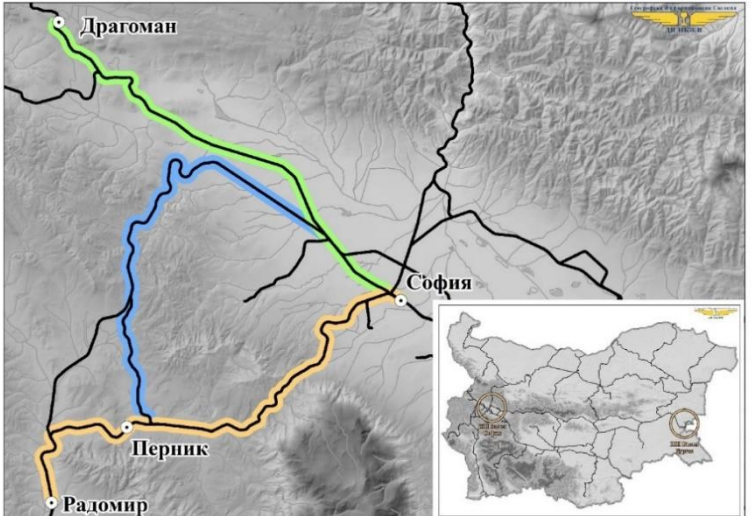
- Section 1, **Vidin-Medkovets**, con total indicative value of 735,6Mil. BGN, as the construction is envisaged for the period 2016 – 2020;
- Section 2, **Medkovets-Ruska Byala** and Section 3, **Ruska Byala-Stolnik**, con total indicative investment value: 2,93Billion BGN. The construction is envisaged for the period 2019 – 2025.

2. Modernisation of Sofia-Septemvri railway section.



	<ul style="list-style-type: none">- Approved AF, which amounts to: 56 608 344 BGN.- Grant amounting to: 39 116 600 BGN. <p>Total indicative investment value for the project: 1,48 Billion BGN</p>
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3. Tool for preparation of railway projects under TEN-T network

	<ul style="list-style-type: none">- Approved AF, which amounts to: 36 059 994 BGN- Grant, amounting to: 13 721 735 BGN <p>Total indicative investment value of the sites within the project scope: 1,67 Billion BGN</p>
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4. Rehabilitation of Plovdiv-Burgas railway section – Phase 2.

Total indicative investment value of the project: 627,335 mil. BGN. The rehabilitation of Plovdiv-Orizovo railway section and of Burgas railway node is expected to start in 2015, and to the rest of the sites the construction will start in 2016.

5. Technical assistance for construction of intermodal terminal in North central district of planning in Bulgaria-Ruse.

Total indicative investment value for the project: 50,85mil. BGN



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6. **“Modernisation of Radomir-Gueshevo railway line”**(Total indicative investment value: 1,088 Billion BGN) and **“Preliminary studies for modernization of Radomir-Kulata railway line”** –(Total indicative investment value: 1,5 Billion BGN)

The State Enterprise National Railway Infrastructure Company is a direct beneficiary under OPT.



Introduction

The present report represents the activity of the “Specialized railway accidents and incidents investigation unit”(SRAIU), performed during 2014 as per Directive 2004/49/EC on safety on the Community’s railways.

The annual report represents investigations led by the SRAIU in its quality of national investigation authority and in accordance with the provisions of the Railway Transport Act, Ordinance No59 dated 05.12.2006 on the rail safety management, Rules of rail transport accidents and incidents investigation and Ordinance No H-32 dated 19 September 2007 on the coordination of activities and information exchange within the rail accidents and incidents investigation.

During the reviewed year were started and completed 6 investigations, occurred, two of which in accordance with art. 19, par. 1, and four as per art. 19 par. 2 of Directive 2004/49/EC.

The report contains information on the given, as a result from the conducted investigations, safety recommendations and undertaken measures for these recommendations.

In the preface to the report is provided information on the progress of the performed Operational Programme on Transport, financed by the Structural and Cohesion Funds of the European Union for the 2007 – 2013, programme period.

1. INVESTIGATION AUTHORITY

In relation to the requirements of Directive 2004/49/EC of the European Parliament and Council dated 29.04.2004 on safety on the Community’s railways, transposed in the Railway Transport Act and Ordinance No 59/05.12.2006 on the rail transport safety, by the Council of Ministers Decree No 250 dated 25.11.2005, in 2006 at the Ministry of Transport, Information Technology and Communications (MTITC) was established a Specialized railway accidents and incidents investigation unit (SRAIU).

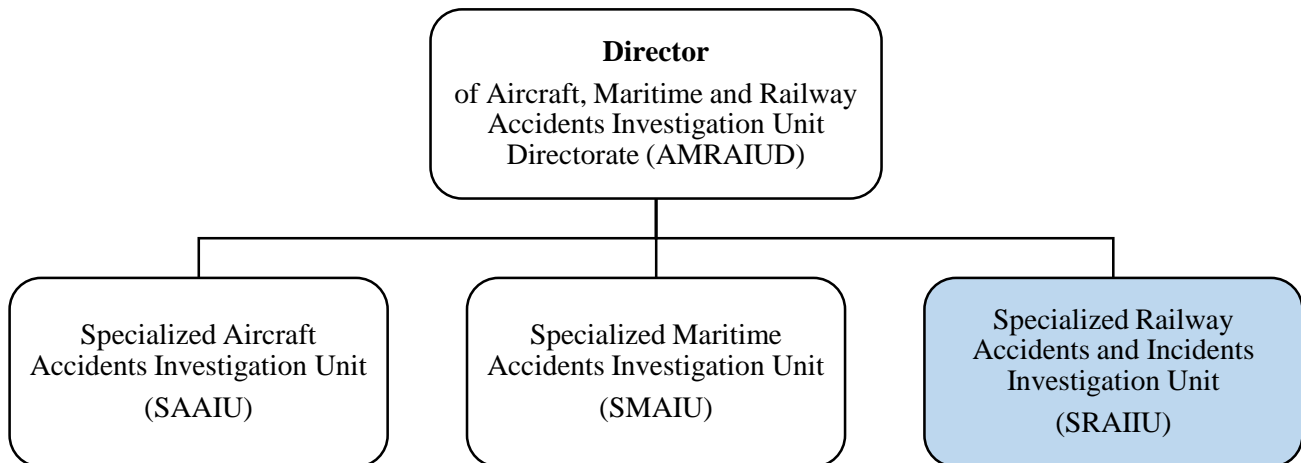
1.1. Legislation

By a Council of Ministries Decree No185 dated 28.07.2008 of Republic of Bulgaria was established an „Aircraft, Maritime and Railway Accident Investigation Unit Directorate“ (AMRAIUD) within the structure of the MTITC. The Directorate represents a multimodal authority, consisting of three independent specialized units for aviation occurrences investigation, maritime areas accidents and railway accidents and incidents as well.

The SRAIU is a national authority for railway occurrences investigation, which is independent from the railway infrastructure manager, railway undertakings/carriers and from the national safety authority (NSA) in the rail transport, which is represented by Railway Administration Executive Agency (RAEA) in Republic of Bulgaria.



Structure of AMRAIUD at MTITC



1.2. Functions and objectives

The main objective of the SRAIIU within the investigations performance is to establish the technical causes of the occurred accidents and incidents and to identify, and issue effective recommendations to improve the level of railway safety.

The role and activity of SRAIIU are described in details in the national regulations, in which Directive 2004/49/EC of the European Parliament and of the Council on the safety on the Community's railways was transposed.

The main functions and responsibilities of the SRAIIU are the following:

- To organize, coordinate and control the technical investigations of significant railway accidents and incidents, occurred on the territory and in border-crossing areas of Republic of Bulgaria;
- To establish all the technical causes, circumstances and facts related to significant railway accidents and incidents that occurred, incl. identification of evidences, performance of analysis, decision making and preparation of specialized expertise and documentation;
- Coordination of the activities during the realization of joint technical investigations with the competent investigating authorities of MI, the Prosecutor's office of Republic of Bulgaria and other state investigation authorities;
- Preparation, submission to all interested parties and publishing the final investigation reports with recommendations to improve safety and prevent the occurrence of similar significant accidents;
- Participation in the activity of the National investigation bodies of the EU member-states network, coordinated by the European railway agency (ERA);
- Participation in working groups for harmonization of the national regulations with the European legislation related to the railway accidents and incidents investigation;
- Daily, collecting and analysing the data on the occurred accidents and incidents in the railway transport system.



- Maintenance of archive of the investigated accidents and incidents, and of information data base as well;
- Preparation and circulation of a news bulletin of investigated significant rail accidents and incidents.

1.3. Organisation of the activity

The SRAIU main activity as a national investigation authority is an investigation of railway occurrences, classified according to the art. 19 of Directive 2004/49/EC. In 2014 the SRAIU performed investigation of railway occurrences, by three inspectors with classification and qualification certificate for master-engineer- Rail transport operation and management, chief inspector with classification and qualification certificate for master-engineer on Rail rolling-stock and inspector with classification and qualification certificate for master-engineer on Production, operation and repair of digital calculating machinery and devices. The budget of the Unit is planned and provided by the MTITC accordingly to its ongoing operational needs. The Head of the SRAIU takes the decisions for undertaking of investigation individually according to the requirements of:

- Directive 2004/49/EC and the effective European and national legislation;
- Railway Transport Act (RTA);
- Ordinance No 59/05.12.2006 for safety management in the railway transport.

The SRAIU notifies the ERA on each undertaken investigation of a rail occurrence via the ERAIL system. The investigations are terminated with the preparation of a final report, which is made available on the MTITC webpage. The SRAIU reports to ERA for each completed investigation, and presents a digital copy as well of translation of the original final report in English language. After validation from ERA side, the final report is available for public on the website of the Agency.

International activity in2014

1. Participation of an inspector in two two-days plenary meetings of the National Investigation Bodies Network (NIB) of rail transport accidents, organized by ERA within the period 02 – 03.04.2014 and 05-06.11.2014 in Lille, France;
2. Participation in a common work of the NIB Network on proposals for amendments and integrations of Directive 2004/49/EC within the 4-th railway package;

3. Participation of SRAIU in other events

1. Monthly, after obtaining statistical information on the common indicators of the infrastructure manager and railway undertakings/carriers in connection with Ordinance No 59/5.12.2006, the SRAIU performs analysis and summarises the data on safety management in railway undertakings and infrastructure. In this regard, in July was performed an analysis of the safety management data for 2014 provided in the annual reports of the railway infrastructure manager and railway undertakings/carriers;

2. The SRAIU daily monitors the operating environment in connection with the safety requirements;

3. The SRAIU timely prepared and published an annual report for the previous year, which was sent to the European Railway Agency.

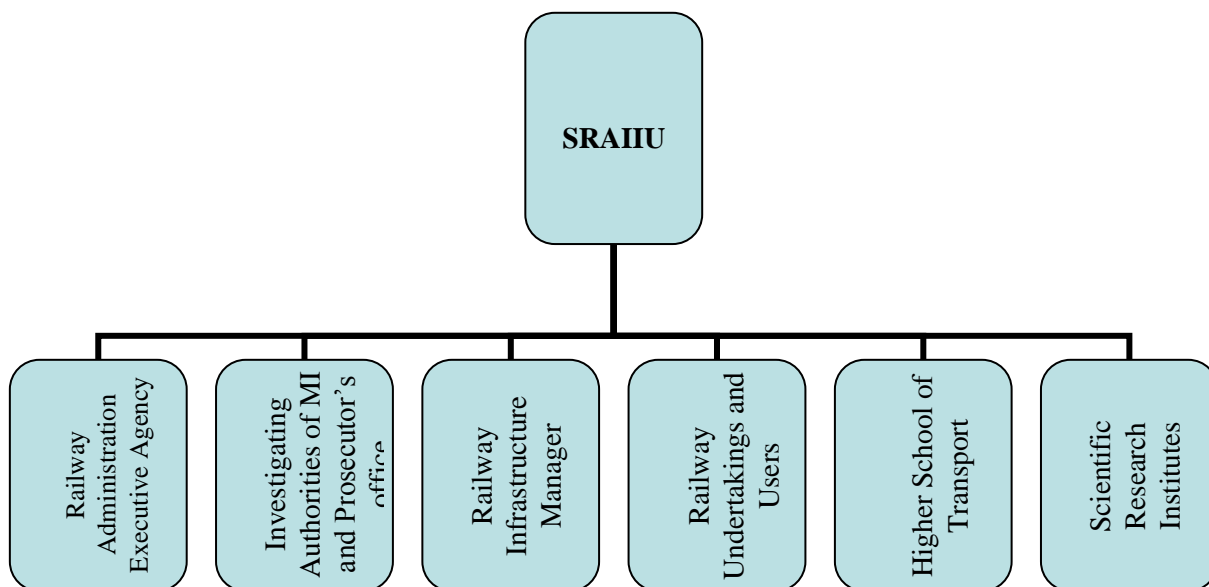


1.4. Organisational scheme

In order to create the necessary conditions and organization for timely and efficient operations in the process of conducting a technical investigation the SRAIU coordinates with the MI competent investigating authorities and the Prosecutor's Office, which conduct a parallel pre-trial investigation. If necessary, carries out regulated exchange of information acquired by various investigating bodies under the order of implementation of Ordinance No H-32/19.09.2007 on the coordination of the activities and information exchange within the investigation of railway accidents and incidents.

In the process of investigation, the SRAIU establishes working contacts and coordinates its activities with the railway infrastructure manager, railway undertakings, and users of railway services with respect to the investigated accident or incident in order to provide information related to the investigation, as well as other independent institutions and specialized administrations for preparation of specialized expertise.

Relation of SRAIU with other investigation authorities and institutions



2. PROCESS OF INVESTIGATION

2.1.Events that are subject to investigation

The railway events that are subject to investigation by the SRAIU are stipulated in Directive 2004/49/EC, RTA and Ordinance No 59, as follows:

- Significant railway accidents;
- Accidents and incidents, which within different circumstances could lead to consequences, typical for the significant railway accidents;
- The specialized unit, under its judgment may also investigate technical damages within the structural subsystems and interoperability components taking into account their importance.



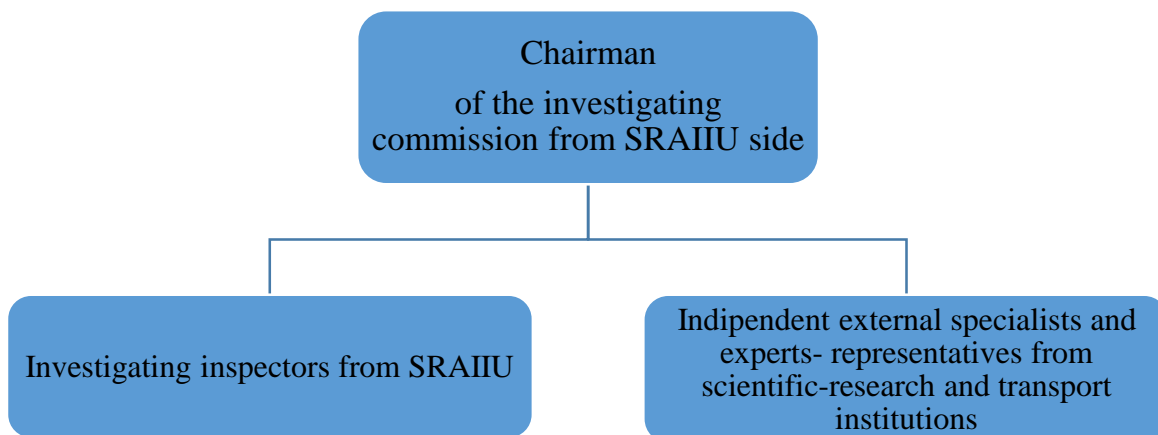
In the event of an accident or incident, the authorized officials of the railway infrastructure manager and railway undertakings shall immediately notify the SRAIIU in accordance with the RTA and Ordinance No 59 requirements.

2.2. Institutions related to the investigation.

There is established during an accident investigation, classified by the SRAIIU under art. 19 of the Safety Directive, an Investigation Commission, which includes investigation inspectors from the Unit and independent external specialists and experts from academia and transportation universities with specializations according to the specifics of the respective investigation. In the course of and for the purposes of the investigation, the Commission uses specialized services from independent institutions:

- Scientific-research Institute of Transport;
- Sofia Technical University;
- Todor Kableshkov Higher School of Transport;
- Bulgarian Academy of Sciences;
- Other institutions for each specific case.

Structure of the Commission of railway events investigation



2.3. Process of investigation and investigating authority approach

In any notification on occurred railway event from the NRIC's duty officers, it is classified by the SRAIIU in accordance with the regulations. After taking a decision for investigation, the SRAIIU undertakes immediately an action to organize it and notifies all parties that are involved in the event. The inspectors on the investigation take prompt actions to move to the site. After initiation and establishment of the basic data for the railway event, the SRAIIU notifies ERA on the undertaken investigation by notification in ERAIL.

The Chairman of the Commission coordinates the actions with the competent state authorities Prosecutor's Office, Ministry of Interior, Civil Protection, Emergency Medical Care, Fire Safety and Protection of Population (FSPP) and other institutions to provide the necessary conditions for independent technical investigation. The manager of the railway infrastructure, railway undertaking/carrier and other involved in the event legal entities provide to the



Commission all records and conversations of the staff involved in the train operation management, as well as any other relevant information on the investigation and documents related to the investigation. At the request of SRAIU, the NSA provides any important information about the investigated accident or incident. The Commission holds meetings and interviews with the involved staff and requires written statements of all legal entities and individuals, who are directly and indirectly, related to the event. The Commission receives full support and assistance from the competent state investigating authorities, the MI and the Prosecutor's Office, which conduct its own parallel investigation, according to the requirements of Ordinance No H-32/19.09.2007 on the coordination of activities and exchange of information in the investigation of railway accidents and incidents.

The technical investigation is carried out with maximum transparency to exchange views and opinions of all parties involved in the event. The Commission analyses the collected documents, materials, prepared opinions and expertise before, during and after the accident in order to clarify the circumstances and reasons for its occurrence.

The Chairman of the Commission shall prepare a final report on the technical investigation of any accident or incident within one year from the date of its occurrence. The final report sets out the chronology of events, personnel actions, and a detailed description of the findings on fatalities and injured persons and material damages, there is included analysis of the event, the circumstances and it is given a justification of the causes for its occurrence. Where appropriate, recommendations are prepared for improving the level of safety in order to prevent other events of a similar nature that are addressed to the NSA and direct contractors - the infrastructure manager and undertakings involved in an accident and, if necessary to other participants involved in the event. The addressees of the recommendations are obliged to inform in writing the SRAIU about the taken measures for implementation of the recommendations within specified deadlines.

The SRAIU reports on the completion of the investigation to ERA-ERAIL, attaching a copy of the original Final Report. The final report is made publicly available on the SRAIU website – on the Internet portal of MTITC.

2.4. Reports and studies on the rail events safety in 2014.

The SRAIU received reports on a total of 588 railway events of which 304 accidents, including 162 collisions of Rail Rolling Stock (RRS) in obstacle, 38 cases of RRS derailment, and 21 accidents at level-crossings, as 23 fatalities were registered, excluding suicides, including 1 during derailment, 6 at level-crossings, and 16 from RRS in motion, and 45 seriously injured persons, including 8 during train derailment, 16 at level-crossings, and 21 from RRS in motion. The total number of accidents, defined from NRIC as significant is 58, including 4 train collisions (including collisions with obstacle within the limits of the construction gauge), 6 derailments, 11 accidents at level-crossings and 37 accidents with persons, caused by rolling stock in motion. The Analysis of the global data on railway accidents indicates that the majority of them are accidents with persons, caused by RRS in motion, and the collisions at level-crossings with injured and fatalities as the fatalities from suicide are 29.

The value of the suffered material damages by rolling stock and rail infrastructure as a consequence of significant rail accidents amounts to 5 902 749.70 BGN (3 018 028 EUR). The total damages suffered by the rail undertakings/carriers are as follows:

- BDZ PS - 8 446 607,79 BGN (4 318 681.98 EUR);



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- BDZ Cargo – 77 982 BGN (39 872 EUR);
- BRCJSC – 23 710 BGN (12 122.73EUR);
- “Rail Cargo Austria” AG – 0.00 BGN (0.00 EUR);
- “DB Schenker Rail Bulgaria” EOOD – 350 593.36 BGN (179 255.54 EUR);
- “Bulmarket DM” Ltd. - 0.00 BGN (0.00 EUR);
- “Cargo Trans wagon Bulgaria” AD - 0.00 BGN (0.00 EUR);
- “Express Service“ Ltd. - 0.00 BGN (0.00 EUR).

There are no data on participation of other main railway undertakings/carriers in the registered in 2014 accidents and incidents.

The rail events, occurred in 2014 are registered by type in Table 1:

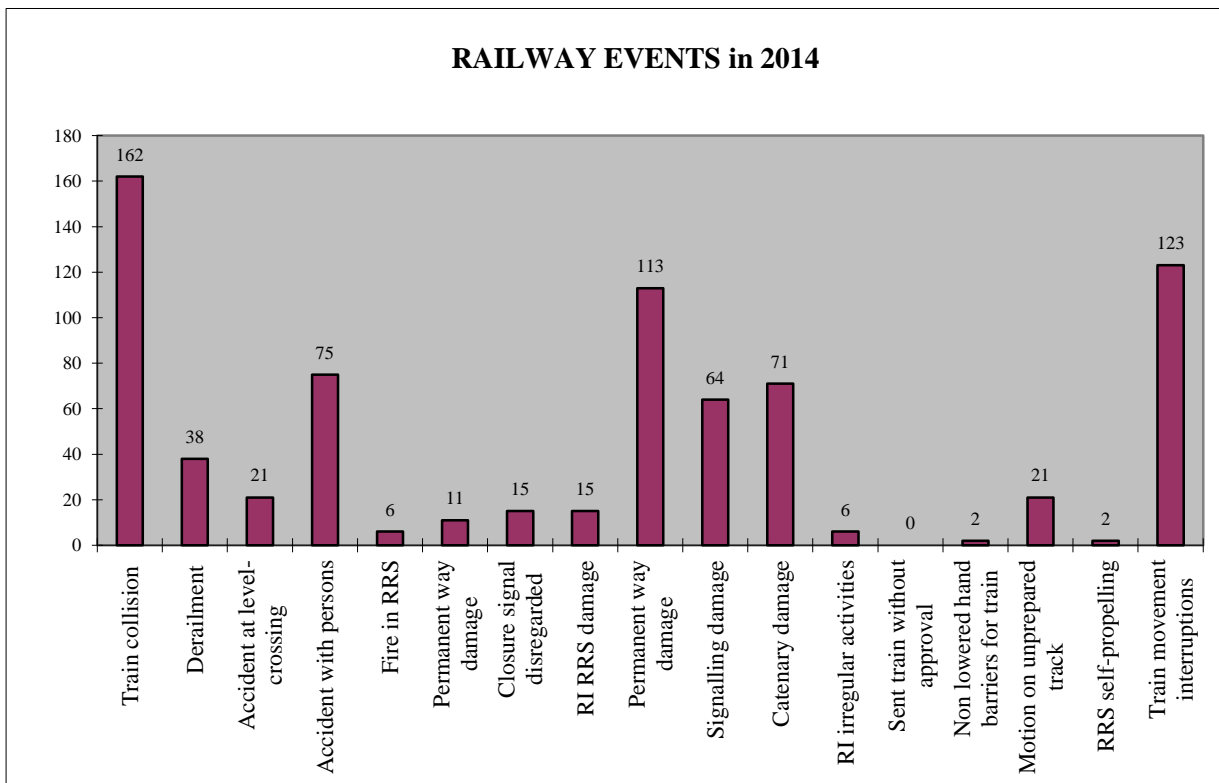
Table 1: Rail events in 2014

No	TYPE OF EVENTS	NUMBER
ACCIDENTS		
1	Train collision	162
2	RRS Derailment	38
3	Accident at level-crossing	21
4	Accident with persons	75
5	Fire in RRS	6
	Other	2
Total:		304
INCIDENTS		
6	Permanent way damage	11
7	Signalling damage	0
8	Closure signal disregarded	15
9	Break of RRS wheel	1
Total:		27
SITUATIONS, CLOSE TO INCIDENTS		
10	RI RRS damage, which caused the delay	15
11	Permanent way damage	113
12	Signalling damage	64
13	Catenary damage	71
14	Irregular or non-coordinated actions by the RI operational staff	6
15	Missed train	0
16	Accepted train on occupied track	0
17	Sent train without approval	0
18	Sent train to an occupied interstation	0



19	Non assured train with brake mass	0
20	Non-lowered hand barriers for train	2
21	Motion along non-prepared route	21
22	RI RRS damage, which caused a derailment	0
23	RRS self-propelling	2
24	RRS left out of distance indicators	0
25	Train movement interruption	123
Total:		417

Railway events chart along the rail network in 2014

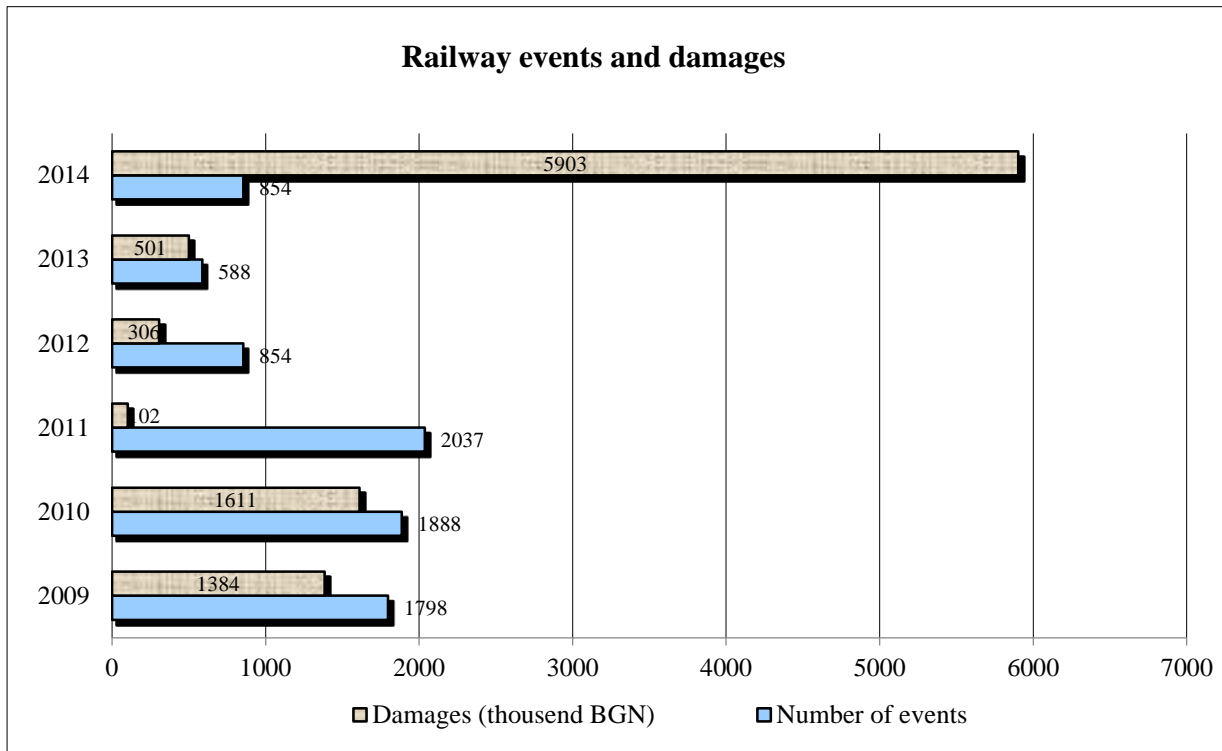


Railway events with caused damages

In 2010 compared to 2009 the deviation damages /BGN is -226 396 BGN (-116 100 EUR)
 In 2011 compared to 2010 the deviation damages /BGN is -102 290 BGN (-52 457 EUR)
 In 2012 compared to 2011 the deviation damages /BGN is +192 266 BGN (+98 304 EUR)
 In 2013 compared to 2012 the deviation damages /BGN is +206 902 BGN (+105 787 EUR)
 In 2014 compared to 2013 the deviation damages/BGN is +5 402 000 BGN (+2 762 000 EUR)



Chart of railway events and caused damages along the rail network for the period 2009 - 2014



3. INVESTIGATIONS

3.1. Summary of completed investigations, including key trends

In 2014 the SRAIIU performed the investigation of six railway accidents, two of which were classified as significant under art. 19, par. 1, and four under art. 19, par. 2 as per Directive 2004/49/EC. There started the investigation of another one-railway accident, occurred on 23.12.2014.

The summarized data from the investigations are exposed respectively in p. 3.2 and 3.3.

Table2: Investigated accidents and incidents in 2014

Type of investigated accidents and incidents	Number of accidents	Number of victims		Damages (EUR)
		Fatalities	Seriously injured	
Accidents at level-crossing	2	2	6	427 751
Fire in RRS	2	-	-	8 099
Derailement of RRS	2	1	14	768 756
TOTAL:	6	3	20	1 204 607



3.2. Investigations started and completed in 2014

Table 4: Investigations, started and completed in 2014

Date of the event	Visit card of the investigation	Legal basis	Completed on
01.02.2014	Technical investigation of railway accident–Fire occurrence in diesel locomotive No 07123.3 in Gorna Oryahovitsa locomotive depot	Directive 2004/49/EC, art. 19, par. 2 and an Order of MTITC, art. 5, p. 6 of the RTA, art. 78, par. 1 of Ordinance No 59	10.06.2014
28.03.2014	Technical investigation of railway accident–Derailment of a freight train No 10530 within transit passing on third track in Todor Kableshkov station	Directive 2004/49/EC, art. 19, par. 2 and an Order of MTITC, art. 5, p. 6 of the RTA, art. 78, par. 1 of Ordinance No 59	02.10.2014
07.05.2014	Technical investigation of significant railway accident–Collision of a passenger train No 10113 with a motor vehicle—a truck with semi-trailer at railway level crossing on km 101+227 between Belovo and Septemvri.	Directive 2004/49/EC, art. 19, par. 1 and an Order of MTITC, art. 5, p. 6 of RTA, art. 78, par. 1 of Ordinance No 59	22.07.2014
12.07.2014	Technical investigation of significant railway accident – Derailment of a fast train, No 8601 within transit passing on fourth track in Kaloyanovets station.	Directive 2004/49/EC, art. 19, par. 1 and an Order of MTITC, art. 5, p. 6 of RTA, art. 78, par. 1 of Ordinance No 59	17.12.2014
07.08.2014	Technical investigation of railway accident – Fire occurrence inn electrical locomotive No 44117.0, which serviced fast train No 8613, between the stations Kaloyanovets– Stara Zagora.	Directive 2004/49/EC, art. 19, par. 2 and an Order of MTITC, art. 5, p. 6 of the RTA, art. 78, par. 1 of Ordinance No 59	26.11.2014
09.10.2014	Technical investigation of significant railway accident – Collision of a diesel locomotive No 55078.0 with a motor vehicle (car) at a guarded level-crossing at Obelya halt on km 5+375 between the stations Sofia-Voluyak.	Directive 2004/49/EC, art. 19, par. 1 and an Order of MTITC, art. 5, p. 6 of the RTA, art. 78, par. 1 of Ordinance No 59	18.11.2014

3.2.1. Fire occurrence of a diesel locomotive No 07123.3 in Gorna Oryahovitsa locomotive depot.

Brief description

At 01:28 a.m. on 02.01.2014 in Gorna Oryahovitsa locomotive depot, a fire occurred in a diesel locomotive No 07123.3.

Taking into account the severe winter meteorological conditions, the locomotive stayed with working engine until the refuelling point on track 21 in order to be prepared for its immediate



usage. Around 00:30 a.m. on 01.02.2014, the locomotive was left with working engine, and without supervision, which violated art. 42 of PS_PLD 505/13 “Prescription for the work of engine drivers, locomotive, assistant-engine drivers, and locomotive in “BDZ – Passenger services” EOOD”.

Around 01:25 a.m. in first cabin of the locomotive was noted smoke, when the staff on duty opened of the door, from the cabin started to emit dense suffocating smoke and over the control - board on the right side appeared a flame. After several unsuccessful trials from the staff on duty to extinguish the fire with the available portable fire-extinguishers, the fire was extinguished at 01:46 a.m. by the assistance of 2 fire cars of Regional office “Fire safety and protection of the population” – Gorna Oryahovitsa.



Consequences

There were no any fatalities and injuries. There were caused damages to the diesel locomotive amounting in total to 13641.95 BGN.

Causes

The immediate technical cause for the occurred accident – fire of diesel locomotive No 07123.3 in Gorna Oryahovitsa Locomotive depot, was the usage of an open fire source (paraffin torch) for defrosting of the water separators (steam traps) with pressure 5 and 10 Bar of pneumatic installation, allocated under the floor of the locomotive first cabin. The leaving of the locomotive without supervision with working diesel engine led to acceleration and increasing of the fire.

Investigation status

The investigation was completed on 10.06.2014.

3.2.2. Derailment of a freight train No 10530 within transit passing on third track in Todor Kableshkov station

Brief description

Around 08:20 a.m. on 28.03.2014, a freight train No 10530 in composition of 24 wagons, 96 axes, 1758 tonnages, running along Plovdiv marshalling yard-Plovdiv-Sofia-Bobovdol direction, derailed within transit passing before switch No 24 of 3-rd. track in Todor Kableshkov station. Derailed and laid are five wagons and the train was torn between the fifth and the sixth wagon.



Consequences

There were no any fatalities and injured. There were caused significant damages to the rolling stock and to the rail infrastructure amounting in total to 266 135.00 BGN.

Due to a repair of the infrastructure, the train operation between the stations Stambolyiski, Todor Kableshkov and Plovdiv was interrupted from 08:20 a.m. on 28.03.2014 until 12:58 p.m. on 29.03.2014.

Causes

Immediate technical cause for the occurred accident—with freight train No 10530 during a transit passing on third track in Todor Kableshkov station, was break of the right rail thread (under the mileage) on km 146+535,54 started in the lower part of the base of rail, as a consequence of a created stress-raiser (burner).

Investigation status

The investigation was completed on 02.10.2014.

3.2.3. Collision between passenger train No 10113 and motor vehicle - truck “Scania” with a semi-trailer “Fliegl” at a level-crossing on km 101+227 between the stations Belovo and Septemvri on track No 1.

Brief description

At 16:35 p.m. on 07.05.2014, the passenger train No 10113, running along Sofia-Plovdiv direction hit a motor vehicle—truck “Scania” with semi-trailer, passing irregularly at the level-crossing on km 101+227 between the stations Belovo and Septemvri.

The train was running with a speed 82 km/h under the timetable book and within regular indications of the passage semaphores. During an approach of approximately 600 meters from the railway level crossing on km 101+227, the engine driver noted a truck, which was approaching to the level crossing; he gave sound signals “Attention.” Nevertheless, the truck entered into the level-crossing dangerous zone, then the engine driver undertook a fast stopping with the automatic train brake at 114 m. before the level-crossing, however due to the short braking distance became impossible the hit to be avoided, and at 16:35 p.m. the train hit the truck with 62 km/h running speed. The automobile was towed approximately 50 meters along the track, and the EMU derailed with the two wheelsets of the first bogie.

Consequences



As a result from the collision were injured the truck driver and five passengers in the train, one of whom died later in the hospital from the suffered injuries.

There were caused failures and damages to the rolling stock, railway infrastructure and the truck. The train operation in the Belovo-Septemvri interstation on track No 1 and No 2 was interrupted at 16:35 p.m. on track No 2 and restored at 22:43 p.m., and on track No 1 – at 05:25 a.m. on 08.05.2014.

The total value of the caused damages amounted to 833 733.00 BGN.

Causes

Immediate technical cause for the occurred on 07.05.2014 significant railway accident is: an irregular crossing of motor vehicle (truck “Scania” with reg. No PB 4810 KB) through a level crossing on km 101+227 in Belovo-Septemvri interstation within regularly activated automatic level crossing signalling (ALCS), indicating an oncoming passing of PT No 10113, running under schedule in Sofia-Plovdiv direction.

Investigation status

The investigation was completed on 22.07.2014.

3.2.4. Derailment of a fast train, No 8601, occurred on 12.07.2014 within transit passing on fourth track in Kaloyanovets station.

Brief description

At 15:17 p.m. on 12.07.2014 a fast train, No 8601 running along Sofia-Plovdiv-Varna direction, derailed in the entrance switches at Kaloyanovets station within ordered transit passing on fourth track of the station. The locomotive derailed and rolled over, and as a result derailed 5 carriages from the train composition also.

Consequences

As a result, from the significant accident died the engine driver-first person and four passengers and four employees from the railway undertaking were injured.

Significant damages were caused to the rolling stock, railway infrastructure, and facilities/structures. The train operation between the stations Mihaylovo-Kaloyanovets on track No 1 was interrupted from 15:17 p.m. on 12.07.2014 until 14:21 p.m. on 13.07.2014, and on track No 2 - from 15:17 p.m. on 12.07.2014 for indefinite time.

The total value of the suffered damages amounted to 1 237 422.00 BGN.

Causes

Immediate cause for the significant railway accident—derailment of electrical locomotive No 45153.4 and five carriages from the composition of train No 8601, occurred on 12.07.2014 within ordered route from the traffic manager on duty, for a transit passing on fourth track at Kaloyanovets station, was the train passing at the entrance signal with speed of 106 km/h, and its approaching in the entrance switches 2/4 with speed of 104 km/h with in allowed operation speed up to 40 km/h.



Investigation status

The investigation was completed on 17.12.2014.

3.2.5. Fire occurrence in electrical locomotive No 44117.0, which serviced fast train No 8613, between the stations Kaloyanovets – Stara Zagora on 07.08.2014.

Brief description

On 07.08.2014 fast train, No 8613 running along Sofia-Burgas direction. Around 18:15 p.m., during approaching Stara Zagora station, in the machinery compartment of the locomotive a fire occurred. The locomotive crew stopped immediately the train and started fight with the fire with the available hand fire extinguishers, as a result around 19:10 p.m. the fire was extinguished.

The train operation along the railway line was restored at 21:26 p.m.

Consequences

There were no any victims and injured. There were caused failures and damages to the electrical locomotive, which amounted to 2199.00 BGN.

Causes

The immediate technical cause for the occurrence of fire in electrical locomotive No 44117.0, which serviced fast train No 8613, between the stations Kaloyanovets–Stara Zagora, was the interruption of wire 263, which connected the starting circuit of II-nd engine pump 239. As a result a continuous starting current and inadmissibly great working current, led to a melting of the insulation and to the wire ignition, due to an irregularly used fuse 248, (instead of 40A there was installed 100A).



Investigation status

The investigation was completed on 26.11.2014.



3.2.6. Collision of a diesel locomotive No 55078.0 with a motor vehicle - car “Seat Toledo” at a guarded railway level crossing at Obelya halt at km 5+375 between the stations Sofia and Voluyak on 09.10.2014.

Brief description

Around 14:05 p.m. on 09.10.2014, train No 10997 with locomotive No 55-078 of “BDZ Cargo” EOOD hit a motor vehicle(MV) – car “Seat Toledo”, passing through the level-crossing at km 5+375 in Voluyak-Sofia interstation within lifted barrier beams. The train operation was assured from the traffic managers on duty at Voluyak station and Sofia station-Western district.



Consequences

As a result from the accident was injured the car driver, and the passenger who travelled with him was killed.

The automobile was smashed, and insignificant damages were caused to the locomotive and the railway infrastructure. The train operation between the stations Voluyak and Sofia on track No 1 was interrupted from 14:05 to 17:25 p. m., and on track No 2 from 15:24 p.m. to 17:00 p.m. on 09.10.2014.

In total, the damages from the traffic delays and the failures caused to the locomotive and the railway infrastructure amounted to 2875.00 BGN.

Causes

While insuring the train No 10997 operation from Voluyak station to Sofia station, the implementing staff members of NRIC violated main requirements of the regulations ruling the exchange and recording of telephoned telegrams on the operation in the diaries in the interstation and the guarded level crossings between them, by which the operation safety was insured for the trains acceptance and departure in both stations and their passing through the level crossings.

Investigation status

The investigation was completed on 18.11.2014.



3.3. Investigations started in 2014.

Table 3: Investigations started in 2014.

Date of the event	Visit card of the investigation	Legal basis
23.12.2014	Technical investigation of railway accident–derailment of the locomotives of freight train No 30561 within departure from fourth track of switch No 11 in Zimnitsa station.	Directive 2004/49/EC art. 19, par. 2 and an Order of MTITC, art. 5, p. 6 of the RTA, art. 78, par. 1 of Ordinance No 59

3.3.1. Derailment of the locomotives of freight train No 30561 within departure from fourth track of switch No 11 in Zimnitsa station.

Brief description

Around 07:03 a.m. on 23.12.2014, freight train No 30561, in composition of 24 wagons, of which 3 loaded and 21 empty, and locomotive to the train No 92027 in non-working condition, 144 axles, 1112 tonnages, towed by electrical locomotive No 92034 in direction Pirdop-Karlovoburgas, derailed in Zimnitsa station at switch No 11 by departure from fourth track. There were derailed the locomotives No 92034 and No 92027 with all their wheelsets.

Consequences

There were no any injured and fatalities.

There were caused damages to the rolling stock and to the railway infrastructure

Due to the occurred derailment, the train operation on current track No 1 and No 2 between the stations Zimnitsa and Straldzha was interrupted from 07:46 a.m. to 18:01 .m. on 23.12.2014. The operation was restored on current track No 1 at 18:05 p.m. with passing of the trains and vehicles through the damaged section from 300 m with speed of 25 km/h., and at 16:21 p.m. on 24.12.2014 – after completion of the repair-rehabilitation works on the track, the operation on current track No 1 and No 2 was restored under the timetable book.

The damages from the caused failures to the RRS, railway infrastructure and interrupted traffic amounted in total to 98 971 BGN.



Investigation status

At 31.12.2014 the investigation continues.



3.4. Accidents and incidents, investigated during the last seven years.

Table 5: Investigated accidents and incidents in the period 2008 – 2014.

Investigated events	2008	2009	2010	2011	2012	2013	2014	Total
Train collision	-	-	1	-	-	-	-	1
Collision with obstacle	-	-	-	-	-	-	-	0
Train derailment	-	-	1	-	-	1	2	4
Accident at level-crossing	-	-	2	-	-	-	2	4
Accident with person caused from RRS in motion	-	-	-	-	-	-	-	0
Fire in rolling stock	1	1	1	1	1	2	2	9
Accident related to dangerous goods	-	-	-	-	-	-	-	0
Incidents	-	-	1	-	-	-	-	1
Total:	1	1	6	1	1	3	6	19

Diagram of the investigated accidents and incidents in the period 2008 – 2014.



4. SAFETY RECOMMENDATIONS

The given recommendations from the SRAIU aim to prevent and improve the safety level and to avoid other railway accidents. The recommendations are addressed to the National safety authority in the rail transport, infrastructure manager, railway undertakings/carriers and



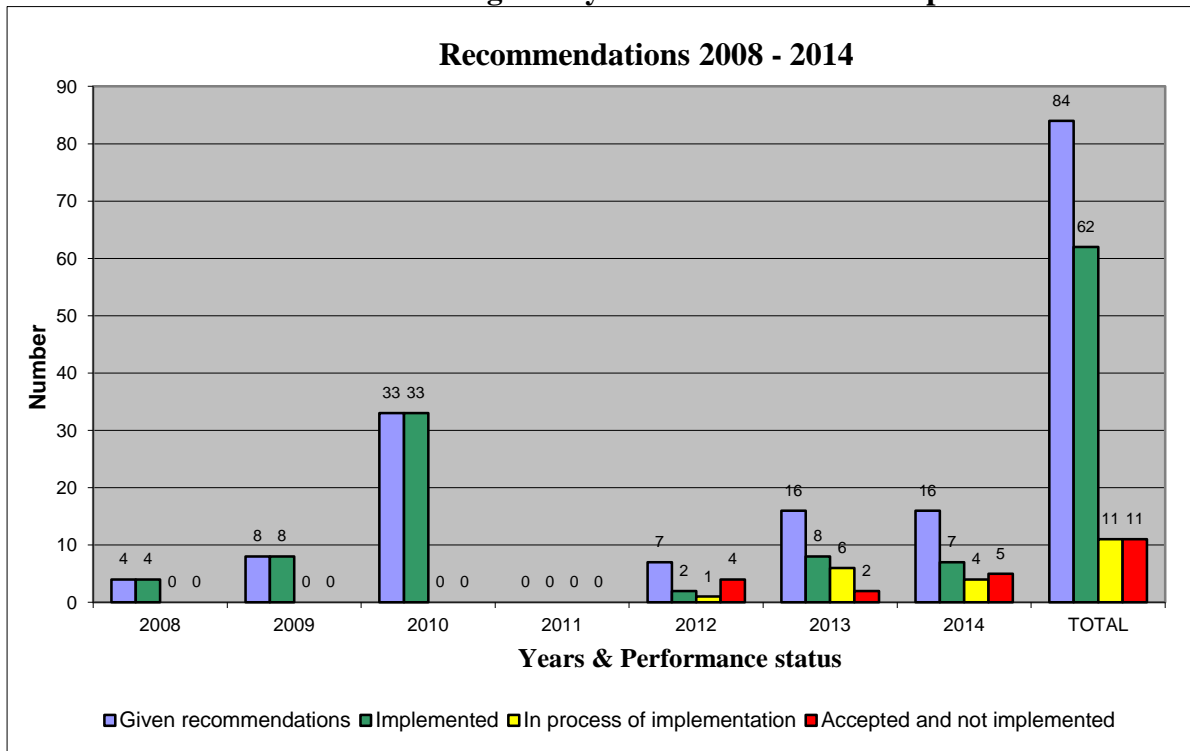
other persons with their own rail transport and/or taking/ handing over activity for undertaking of measures and activities on safety insurance.

4.1. Synopsis and presentation of the recommendations

Table 6: Given and implemented recommendations within the period 2008 – 2014.

Year	Given recommendations	Implementation status of the recommendations		
		Implemented	In process of implementation	Accepted and non-implemented
2008	4	4	0	0
2009	8	8	0	0
2010	33	33	0	0
2011	0	0	0	0
2012	7	2	1	4
2013	16	8	6	2
2014	16	7	4	5
Total:	84	62	11	11

Chart of the recommendations given by the SRAIU within the period 2008 – 2013





4.2. Safety recommendations, given in 2014

2014
<p>Event: Fire occurrence in diesel locomotive No 07123.3 in GornaOryahovitsa Locomotive depot.</p> <p>Safety recommendations: (10.06.2014)</p> <ol style="list-style-type: none">1. "Holding BDZ" EAD to prepare an Instruction for maintenance of the diesel locomotive in warm status within work in winter conditions.2. "Holding BDZ" EAD to create the necessary organization and preventive control that to ensure within defrosting of frozen elements from the pneumatic and heating installations of the locomotives and multiple trains to not be used opened fire sources (flame from gasoline lamps, gas burners, paraffin torches etc.).3. To be performed a single check of the functional availability/qualification of the fire announcement and fire extinguishing installations of all the series of diesel locomotives operated in "Holding BDZ" EAD.4. "Holding BDZ" EAD to study the possibility and to install additionally temperature sensors or optic-smoke sensors for fire announcement installation in the command cabins, which shall be connected to the existing fire announcement installations in the diesel locomotives series 06000 and 07000. <p><i>Undertaken measures</i></p> <ol style="list-style-type: none">1. In implementation;2. Implemented;3. Implemented;4. Accepted, implemented.
<p>Event: Derailment of freight train No 10530 within transit passing on third track in Todor Kableshkov station</p> <p><i>Safety recommendations:</i>(02.10.2014)</p> <ol style="list-style-type: none">1. There shall be made studies for provision of apparatuses for non-destructive testing with extended possibilities for more precise finding of defects on the rail profile, switches and the other elements of the rail track;2. The SE NRIC Director General shall order more serious control and preciseness of the work of the officials involved in the performance of non-destructive testing (NDT) of welded compounds and recovered by plating rail track elements, preventive NDT of rails and switch elements laid in the rail track;3. Within the performance of construction-repair works for rehabilitation and modernization of the rail infrastructure, there shall be performed continuous control of the rail infrastructure and facilities/ structures to it (for temporary construction and operation) and the quality of the used materials within second usage, as per the requirements of the regulations referring the track maintenance. <p><i>Undertaken measures</i></p> <ol style="list-style-type: none">1. At 23.01.2015 the recommendation is in implementation;2. Implemented;



3. Implemented.

Event: Collision of passenger train No 10113 with motor vehicle–truck “Scania” with semi-trailer “Fliegl” at railway level crossing at km 101+227 n the interstation Belovo-Septemvri on 07.05.2014.

Safety recommendations:(24.06.2014)

In order to avoid other similar accidents and as per art. 115 m., par. 2 of the Railway Transport Act, with approved report No 14-001130/17.06.2014 and a letter Ref. No 10-22-772/24.06.2014 of the Minister of transport, information technology, and communications was given a safety recommendation to the interested parties for implementation.

Undertaken measures

The recommendation is implemented.

Event: Derailment of fast train No 8601, occurred on 12.07.2014 within transit passing on fourth track in Kaloyanovets station

Safety recommendation:(17.12.2014)

1. The licensed railway undertakings, which perform railway transport of passengers and freights in sections, equipped with “Automatic locomotive signalling” (ALS), to not allow shift of locomotive staff without the necessary qualification for work with ALS;

2. The licensed railway undertakings, which perform railway transport of passengers and freights in sections, equipped with “Automatic locomotive signalling” (ALS), to not allow in operation traction rolling stock (TRS), which is not equipped or is in irregular or not switched on-board equipment of ALS;

3. The RA EA to amend or integrate the text with new point of art. 192, par. 1 of Ordinance No 58 dated 2.06.2006 on the rules for technical operation, train traffic and signalling in the rail transport with the following text “unequipped or with non-working on-board equipment of ALS in sections, equipped with ALS”;

4. The RA EA to amend or integrate the text in art. 23of Ordinance No 54 dated 2.06.2003 for the medical and psychological requirements to the staff, who performs railway transport of passengers and freights and the accompanying activities, and for the performance of the pre-travelling (pre shift) medical controls, as the text in art. 23shall be individuated in par. 1 and shall be created new par. 2 with text: “Under a proposal of the chairman/president of the appointed by the MTITC commission for accidents investigation, there shall be performed psychological controls of the officials, indicated in art. 18, par. 1, p. 1 and p. 2, who allowed and caused railway accidents”.

Undertaken measures

1. Implemented;
2. Accepted, not implemented;
3. Accepted, not implemented;
4. Accepted, not implemented.



Event: Occurrence of fire in electrical locomotive No 44117.0, which serviced fast train No 8613, between the stations Kaloyanovets – Stara Zagora on 07.08.2014.

Safety recommendations: (26.11.2014)

1. To electrical locomotives series 44000 and 45000, in operation shall be performed a replacement of the melting blade fuses 246 and 248 with automatic fast acting fuses with nominal current 40 A.

2. There shall be performed a single check of all the electrical locomotives in operation for fulfilment of the:

2.1. Requirements of art.371, art. 372, art. 586 and art. 587 of “Rules for factory repair and maintenance of electrical locomotives of BDZ” (Sign. No LS 0103) dated 1979 and art. 461, art.462, art.469 and art. 471 of RLD 127/05 ,”Rules for factory repair of electrical locomotives series 44000 and 45000”;

2.2. Requirements of art. 728 art. 730, art.733, art.735 and art. 743 of RLD 127/05 “Rules for factory repair of electrical locomotives series 44000 and 45000” of wires 208, 213, 260, 261, 262 and 263.

2.3. Wires 208, 213, 260, 261, 262 and 263 shall be installed obligatorily incorrugated metal shell.

2.4. The portable fire extinguishers shall be unified under type and schemes of their location for all the series of electrical locomotives in operation.

3. The Railway Administration Executive Agency shall require the fulfilment of art. 427, par. 1, p. 7 (two gas masks) of Ordinance No 13 dated 30.12.2005 for ensuring of healthy and safe labour conditions in the rail transport, there shall be ensured and equipped the locomotives operated from the licensed railway undertakings in the country.

Undertaken measures

1. There was ordered not later than 19.01.2015 to be made expert proposals for replacement of the blade melted fuses with automatic ones;
2. Implemented at 29.12.2014
3. In process of implementation at 29.12.2014

Event: Collision of diesel locomotive No 55078.0 with motor vehicle–car “Seat Toledo” at guarded level crossing at Obelya halt at km 5+375 between the stations Sofia-Voluyak on 09.10.2014

Safety recommendations:(18.11.2014)

The Director General of State Enterprise Railway Infrastructure Company not later than 30.12.2014 as per the requirements of Ordinance No 4 dated 27.03.1997 on the railway level crossings, shall initiate the procedure for the level crossing closure/cancellation, situated on km 5+375 at Obelya halt between the stations Sofia – Voluyak.

Undertaken measures

From the SE NRIC side were undertaken steps for implementation, however with imposed resolution from the Transport commission of Sofia/Stolychna municipality, sent on 11.02.2015, the implementation was suspended.



SPECIALIZED RAILWAY ACCIDENTS AND INCIDENTS INVESTIGATION UNIT

Republic of Bulgaria

In implementation of the provisions of Ordinance No 59 dated 05.12.2006 the addressees of the issued recommendations are obliged to inform in written the SRAIU on the undertaken measures and their implementation within the indicated deadlines.

.....(signature)..... **Boycho Skrobanski**
State Inspector at SRAIU