

REPUBLIC OF BULGARIA

MINISTRY OF TRANSPORT, INFORMATION TECHNOLOGY
AND COMMUNICATIONS

AIRCRAFT, MARITIME AND RAILWAY ACCIDENT
INVESTIGATION UNIT DIRECTORATE

SPECIALIZED RAILWAY ACCIDENT AND INCIDENT INVESTIGATION
UNIT

ANNUAL REPORT



2010



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Specialized Unit for Railway Accident and Incident Investigation

Republic of Bulgaria

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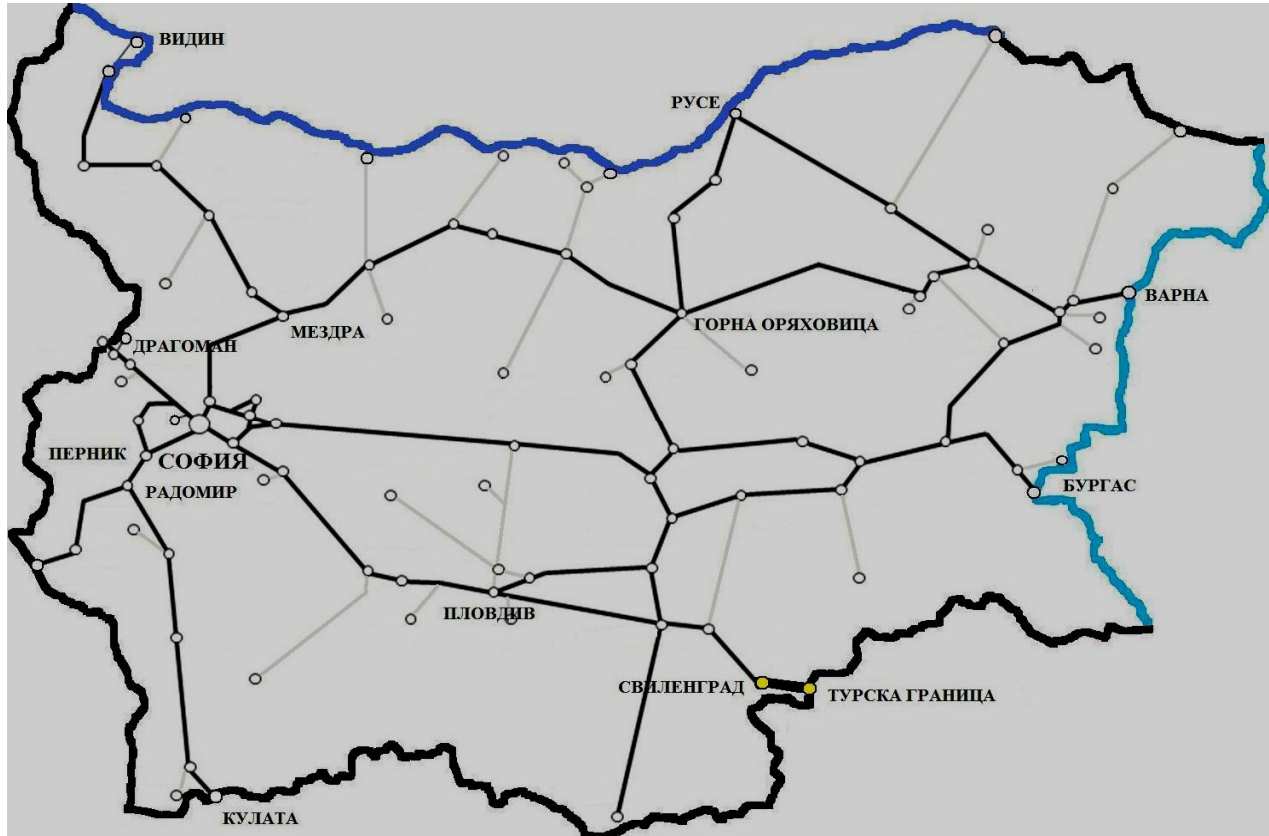
4.1 Summary of the offered recommendations

4.2 Safety recommendations given during 2010



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Map of the railway network in the Republic of Bulgaria



- **The railway infrastructure of the Republic of Bulgaria is public state property, and is used and managed by the National Railway Infrastructure Company, manager of the railway infrastructure.**

The development of railway infrastructure in the Republic of Bulgaria in harmony with the policy of EU is prerequisite for preparation and realization of large number of projects.

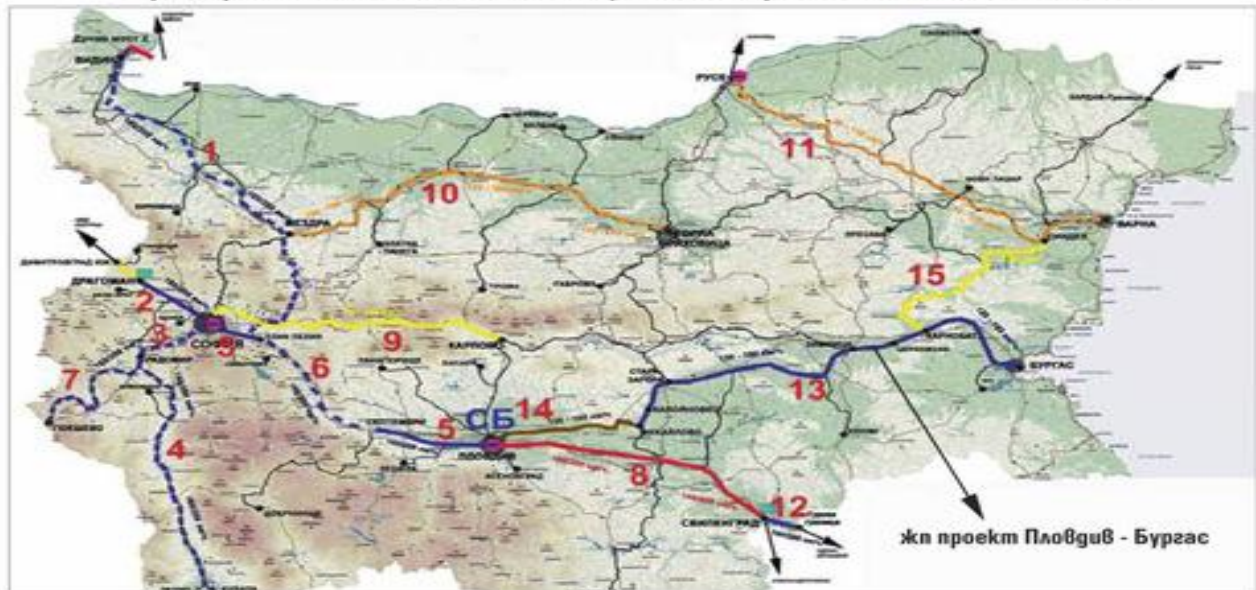
The successful fulfilment of the projects will achieve:

- Operational compatibility
- Guarantee for the safety and security of travel by means of:
 - Implementation of European railway transport management system level 1 (ERTMS), with its adjacent components:
 - Global System for Mobile Communications ó Railway (GSM-R)
 - European Train Control and Management System (ETCS)
 - System for Supervisory Control And Data Acquisition (SCADA)
 - Elimination of crossings of one level with other ground transport
- Permitted maximum speed on the new routes:
 - 160 km/h for passenger conventional trains
 - 200 km/h for passenger rolling stock with adjustable bodies
 - 120 km/h for freight trains



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Приоритетни инвестиционни проекти на ДП НКЖИ



- Модернизация за 160/200 км/ч, финансирано от ИСПА/ЕИБ/ДБ - в етал на строителство
- Модернизация/Рехабилитация/Подновяване с финансиране на строителството от ОП „Транспорт“ 2007-2013 г.
- Модернизация/Рехабилитация/Подновяване с финансиране на строителството от ОП „Транспорт“ 2014-2020 г.
- Модернизация/Рехабилитация - проектна готовност за строителство и финансиране на строителството чрез заема от Световната банка
- Рехабилитация/Подновяване - проектна готовност през 2010 г., но финансирането на строителството не е осигурено
- Рехабилитация/Подновяване - пълна проектна готовност и строителство на участъци с финансиране от Държавния Бюджет

NRIC is Beneficiary under Priority axis 1 of OP Transport:

Development of railway infrastructure in Trans-European and main national axes

- “ Electrification and reconstruction of railway route Svilengrad – Turkish border
- “ Rehabilitation of railway infrastructure in some sections from railway route Plovdiv – Burgas
- “ Modernization of railway route Sofia – Plovdiv (along the Trans-European transport network)
- “ Reconstruction and electrification of railway route Plovdiv – Svilengrad and optimization of the route for 160 km/h;
- “ Stage 2: Parvomay – Svilengrad
- “ Modernization of railway route Vidin – Sofia (along the Trans-European transport corridors IV and X.)
- “ Modernization of railway route Sofia – Dragoman (along the Trans-European transport corridor X.)
- “ Modernization of railway route Sofia – Pernik – Radomir (along the Trans-European transport corridor VIII.)

NRIC is Beneficiary under Priority axis 3 of OP Transport: Improving the intermodality for transportation of passengers and freights.

- “ Building of intermodality terminal in Sofia



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- “ **Building of intermodality terminal in the South Central planning section in Bulgaria - Plovdiv**
- “ **Intermodality terminal in North Central planning section in Rouse**

**NRIC is Beneficiary under Priority axis 5:
Technical assistance for:**

**Projects in the process of fulfilment: 6 mln. EUR
Projects in the process of preparation: 10 mln. EUR**

Railway companies with issued license for railway transport services in the Republic of Bulgaria.

Carrier	Date of issued license	Scope of license	
<u>Bulgarian State Railways EAD</u>	01.04.2004	National BG	Transport of pass. and freight
	10.01.2007	European U	
<u>Bulgarian Railway Company AD</u>	15.04.2005	BG	Transportations
	10.01.2007	EU	
<u>Bulmarket - DM OOD</u>	24.10.2005	BG	Transportations
	10.01.2007	EU	
<u>BSR - Freight transport services EOOD</u>	31.01.2008	EU	Transportations
<u>BSR - Passenger transport services EOOD</u>	31.01.2008	EU	Transport of pass.
<u>Gaztrade AD</u>	01.10.2008	EU	Transportations
<u>Unitranscom AD</u>	01.10.2008	EU	Transportations
<u>DB Schenker Rail Bulgaria EOOD</u>	13.05.2010	EU	Transportations
<u>Express Service OOD</u>	10.06.2010	EU	Transportations
<u>SE TSV</u>	28.04.2011	EU	Transportations
<u>CARGO TRANS WAGON BULGARIA AD</u>	11.05.2011	EU	Transportations

1. INVESTIGATING AUTHORITY

Aircraft, Maritime and Railway Accident Investigation Unit Directorate (AMRAIUD) in Ministry of Transport, Information Technology and Communications (MTITC) is the national investigating authority of the Republic of Bulgaria.

1.1 Legislation

The Specialized Railway Accident and Incident Investigation Unit (SRAIIU) in the Ministry of Transport, Information Technology and Communications (MTITC) was established by decree of the Council of Ministers in connection with the requirements of Directive 2004/49/EC of European Parliament and of the Council from 29.04.2004 regarding the safety of the railway transport in the Community, transposed in the Railway Transport Act (RTA) and Ordinance 59/05.12.2006 for safety management in the railway transport.

The Aircraft, Maritime and Railway Accident Investigation Unit Directorate (AMRAIUD) was established on 10.10.2009 by decree of the Council of Ministers of the Republic of Bulgaria. It consists of three specialized units in the area of investigation of aircraft occurrences, investigation of accidents in maritime and inner-country waterways, investigation of accidents and incidents in the railway transport.

AMRAIUD Directorate is independent investigating authority in the structure of MTITC and is directly under the Minister of Transport, Information Technology and Communications.

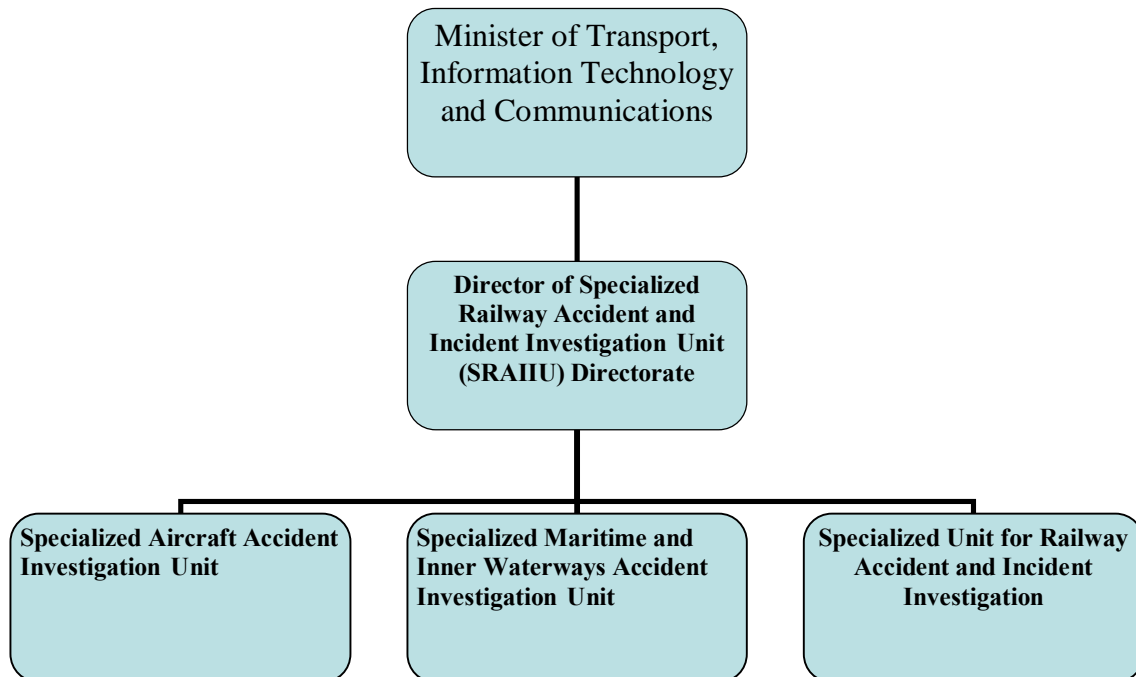


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AMRAIUD Directorate is independent body in its organization, legal structure and decision making in relation to investigation of existing railway occurrences, both from the manager of the railway infrastructure, the railway carriers and the Executive Agency Railway Administration (RA EA), which is the National Safety Authority (NSA) in Republic of Bulgaria.

Organization Chart of AMRAIUD Directorate in MTITC



1.2 Functions and objectives

The functions of inspectors in the area of investigation of railway accidents and incidents are defined in European standards, which are transposed in the national standards and in the internal rules of AMRAIUD Directorate in MTITC approved by the Minister of transport, Information Technology and Communications.

Main functions of inspectors in the area of investigation of railway accidents and incidents:

1. To organize, coordinate and control the technical investigation of serious railway accidents and incidents happening on the territory and in border crossing areas of the Republic of Bulgaria.
2. To establish the main reasons and preconditions when there is a serious railway accident, in order to avoid other such accidents and to improve the safety in the railway transport.
3. The Director of the Directorate is to coordinate the work during the realization of joint investigation with MI, the court, the Prosecutor's office and other national investigation bodies;
4. The Director takes part in working groups for harmonizing the national normative arrangement with the European standards for investigation of railway accidents and incidents.
5. Daily, the Director collects and analyzes the data for the occurred accidents and incidents in the system of the railway transport.
6. The Director takes part in working meetings, organized by the European railway agency with the national investigation bodies.
7. The Director makes an archive of the investigations and maintains information data base for accidents and incidents.
8. The Director prepares and distributes information bulletin for accidents and incidents.



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9. After each investigation of railway occurrence the Director, who is the leader of the unit prepares final report with safety recommendations to avoid such accidents in the future.

1.3 Organization of the work

The inspectors' main activity is technical investigation of railway occurrences classified according to the Safety Directive of the European Parliament and the Council. The investigation of railway occurrences is made by two inspectors. The budget of the Directorate is planned and provided by MTITC. The decisions for undertaking the investigation are made according to the requirements of Directive 2004/49 and the national standard documents, the Railway Transport Act (RTA), Ordinance 59/05.12.2006 for safety management in the railway transport. The Director of the Directorate presents to the Minister annual report for the measures undertaken by the addresses of the recommendations in the reports. Inspectors in AMRAIUD Directorate have inspectors' card and ID issued by the Minister of Transport, Information Technology and Communications.

Participation of inspectors in other events

1. On 16 and 17 of February 2010, in Sofia was held a workshop organized by the European Railway Agency on the theme "Risk assessment in the railway transport" and "General Safety Methods for Safety in the Railway Transport". In the workshop participated also inspectors from SRAIU.

2. By the order of the Minister of Transport, Information Technology and Communications, appointed a commission for performing of constant control in relation with the fulfilment of the contract for transportation of passengers with railway transport on the territory of the Republic of Bulgaria, between MTITC and BDZ "Passenger Transport Services EOOD". In the commission takes part an inspector from SRAIU.

3. By the order of the Minister of Transport, Information Technology and Communications is established Expert council for coordination of action and cooperation in the area of the railway transport, between MTITC and MI, in which take part also inspectors from SRAIU.

4. On 31 of May and 1 of June 2010 a meeting was held with the Department of independent investigation bodies of the Member States of ERA according to advanced coordinated plan for a meeting with inspectors from the Directorate. In the meeting took part representatives from RA EA, the heads of the safety units in SE NRIC and BDZ EAD. With presentations were shown the activity and the investigations of accidents and incidents realized by the inspectors in SRAIU. A presentation of the register of RRS in the Republic of Bulgaria was shown by RA EA. The normative arrangement, the national safety rules and investigation, the conducting of independent technical investigation, the selection of investigation commission, the structure of reports, the ensuring of budget for the investigations were discussed; also the limited administrative capacity of SRAIU was reported.

5. By the order of Minister of transport, Information Technology and Communications RA EA appointed a commission, in which took part also a representative of SRAIU. The commission performed a check-up in BDZ "Passenger transport services EOOD" and BDZ "Freight transport services EOOD" of the functioning systems for safety management. Check-up of repair activity of RRS property of BDZ EAD and effectiveness of the system for quality control of the repair activity and the technical condition of the railway rolling stock. The commission closed its work with a report to the Minister with recommendations and measures for insurance of safety.

6. By the order of the Minister of Transport, Information Technology and Communications interagency working group was appointed under the AMRAIUD Directorate and the representatives of RA EA, Road Police "MI, RIA, EA AA, SE NRIC, which is to analyze the reasons for the increased number of collisions on the railway crossings in the country during 2009 and the first half of 2010. The interagency working group submitted a report to the Minister of MTITC with



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recommendations and measures for safety and limitation of the accidents on the railway crossings in the country.

7. During the months of March and April of 2010, inspectors from SRAIIU participated in joint check-ups with inspectors from Executive Agency Railway Administration, in order to prevent and control railway occurrences in the branches of the railway carriers and the objects of railway infrastructure.

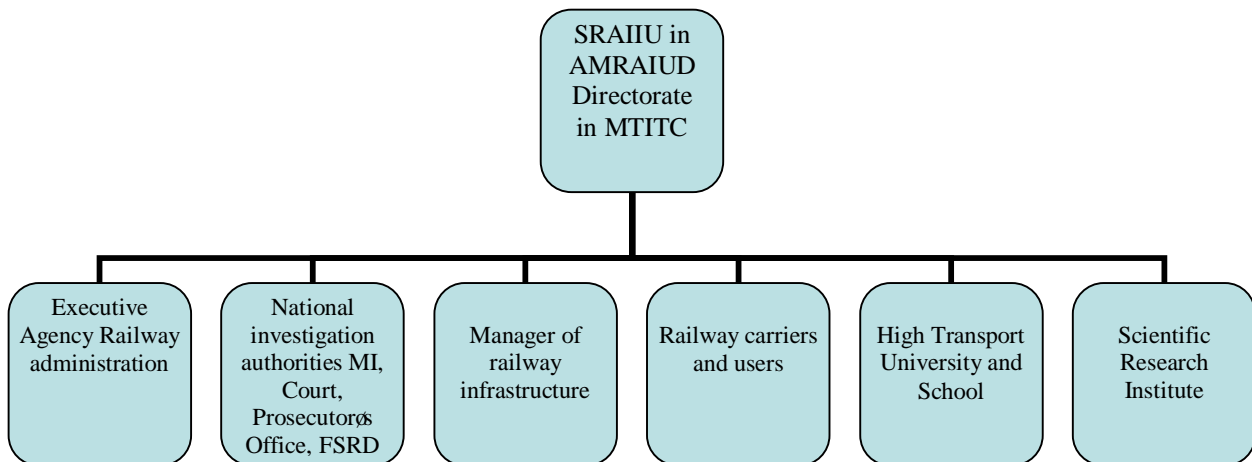
8. SRAIIU in AMRAIUD Directorate takes part in a commission appointed by the order of the Minister of MTITC for amending and supplementing Railway Transport Act, Ordinance 59 for safety management in the railway transport and Ordinance 46 for transportation of hazardous freights by railway transport.

1.4 Organizational plan

For each railway occurrence, parallel with the technical investigation is done also pre-court investigation by the competent investigation bodies of MI, the court and the Prosecutor's office, according to Ordinance -32 / 19.09.2007 for coordination of action and exchange of information during the investigation of railway accidents and incidents, issued by the Ministry of Transport and Ministry of Interior.

The Directorate coordinates the investigation also with other independent scientific institutes, specialized laboratories, RA EA, NRIC and railway carriers.

Connections of AMRAIUD Directorate with other investigation bodies and institutions



2. Investigation process.

2.1 Occurrences, which are subject of investigation.

Each existing railway occurrence classified according to Art. 19, Par. 1 of the Safety Directive mandatory should be investigated by SRAIIU in AMRAIUD Directorate.

The existing railway occurrence, classified according to Art.19, Par. 2 from the Safety Directive, which is not a subject of investigation, the unit will investigate depending on its seriousness.

SRAIIU is investigating also railway occurrences classified according to Art. 21, Par. 6 of the Safety Directive.

2.2 Institutions connected with the investigation

1. During the investigation of occurrence classified according to Art.19, Par. 2, as well as according to Art. 21, Par. 6 of the Safety Directive, in the commission takes part representatives:

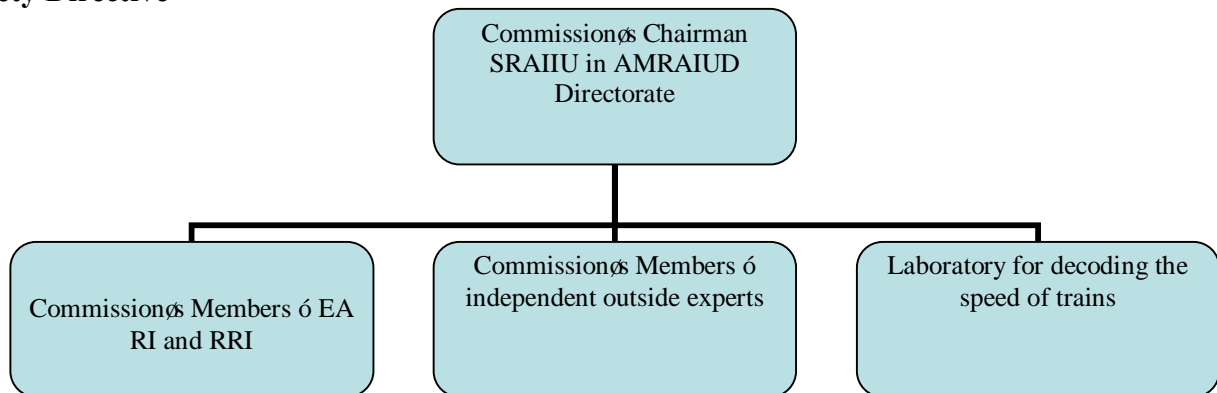
- From Executive Agency Railway Administration;
- From Regional railway safety inspections to RA EA;
- Independent outside railway experts;
- Laboratories for decoding the information for RRS movement;



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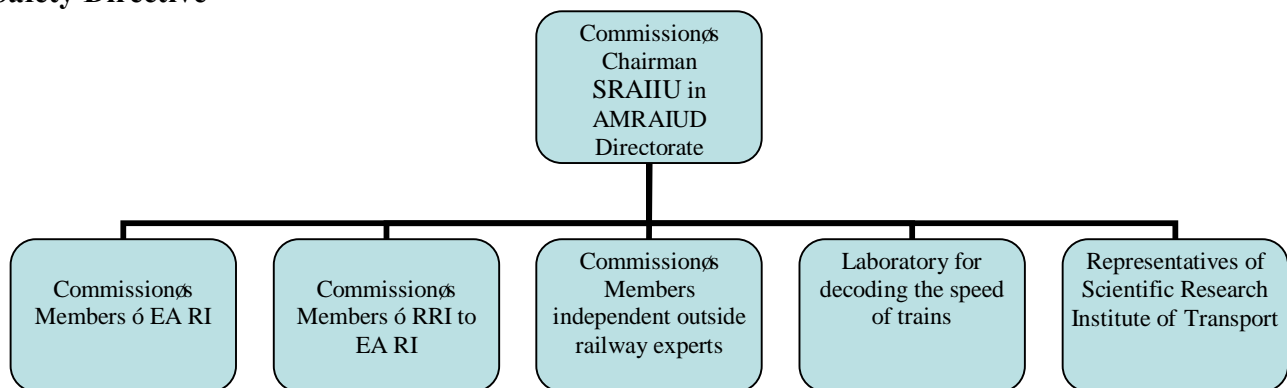
Organizational scheme of the Commission for investigation according to Art. 19, Par. 2 of Safety Directive



2. During each investigation of occurrence classified according to Art.19, Par. 1 of Safety Directive, besides the representatives according to It. 1, in the commission are included also representatives of:

- Scientific Research Institute of Transport (SRIT);
- High Technical University (HTU);
- High Transport School (HTS);
- Other outside experts for the specific accident;
- If necessary, also experts from ERA can be invited for opinion and position;

Organizational scheme of the commission for investigation according to Art.19, Par. 1 of Safety Directive



2.3 Investigation process and the approach of investigating authority

When there is a signal about railway occurrence, it is classified according to the Safety Directive and the national safety rules. When the occurrence is classified according to Art.19, Par. 1, actions are taken immediately to organize technical investigation and to inform all parties of the occurrence and the national body in the area of safety. Actions are taken for transportation towards the place of the occurrence (station or inter-station section). The Manager of the railway infrastructure, according to Ordinance 59 / 05.12.2006, appoints operational group. The operational group collects all books, journals, recordings and other important information, facts and circumstances connected with the occurrence and picture material. The head of the operational group prepares a report according to Ordinance 59 / 05.12.2006 to the authorized chairman of the commission for technical investigation within five days from rise of the occurrence. For each undertaking of investigation the unit notifies of the occurrence according to the requirements of Art. 24, Par. 1 of Directive 2004/49. The Minister of Transport, Information Technology and Communications issues an order for appointing a commission for technical investigation according to the category of the occurrence, shown in organizational schemes of It. 2.2.



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The chairman of the commission coordinates the action of the commission for technical investigation with the competent national bodies. In the process of investigation, RA EA is assisting the work of the commission for technical investigation. The manager of the railway infrastructure, the carriers and other participating in the occurrence legal entities give to the commission all recordings of information for the staff members participating in the management train traffic, and other important for the investigation information and documents. The commission holds meetings and examinations with the staff members participating in the accident, takes testimonies from all legal and natural persons, directly and indirectly related to the occurrence. The technical investigation is held openly in order to exchange opinions and positions between all participating parties in the occurrence. After each completed investigation, the chairman of the commission prepares a final report to the Minister. In the final report are formulated chronology of occurrences, actions of the staff members, caused material damages, killed and injured persons (passengers and/or staff), analysis of the occurrence, the reasons and preconditions for rise of the occurrence. Safety recommendations are given. The recommendations are addressed to all parties in the occurrence and RA EA with terms of fulfilment. The final report is made publicly available on the page of MTITC. Copy of the report is sent also to ERA.

3. INVESTIGATIONS

3.1 Summary of completed investigations, including key trends.

Table of investigated accidents and incidents during 2010

Type of investigated accidents and incidents	Number of accidents	Deaths	Serious injuries	Damages in Euro (approximately)	Trends in comparison with previous years
Head-on train collision	1	-	4	599 627	-
Train derailment	1	-	-	14 182	2006 / 820
Fire in RRS	1	-	-	3 700	2008 and 2009 / 177 523
Admittance of FT to an occupied track by LFT	1	-	-	-	-
Collision of RRS with road vehicle on a railway crossing	2	3	1	2 115	2006 / 530
TOTAL:	6	3	5	619 629	178 973

Diagram of investigated railway occurrences from SRAIU during 2010





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3.2 Investigations completed and initiated during 2010

Table with investigations completed during 2010

Date of the occurrence	Description of the investigation	Legal grounds	Completed (date)
04.10.2010	Technical investigation of serious railway accident, which occurred at 07:55 on 04.10.2010 in the inter-station section Dragoman - Dragoil at km 47+796, Head-on collision between working and servicing train No. 10352 travelling on the route Dragoman ó Dimitrovgrad RS and interstate fast train No. 293 travelling on the route Belgrade - Sofia.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 of RTA, Art. 76, It. 1 of Ordinance 59 /2006	November 2010
08.02.2010	Technical investigation of railway accident, train derailment No. 383 óBulgaria expressö Moscow - Rousse - Sofia, occurred on 08.02.2010, at 09:48, between dividing section Vlado Trichkov and station Kurilo, on road No. 2, at km 18+029.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 Ordinance 59 / 2006	March 2010
03.07.2010	Technical investigation of railway accident, which occurred at 06:41 on 03.07.2010 in the inter-station section Aytos ó Bulgarovo on road No. 1 ó fire started in the second attached car No. 32-357.4 of passenger train No. 80251, serviced by EMT No. 32-157.0 /32-357.4 /32-358.4 /32-158.8, travelling on the route Karnobat-Burgas.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59 / 2006	October 2010
09.06.2010	Technical investigation of railway incident with regional fast train No. 2655, travelling on the route Pleven ó Varna, on 09.06.2010 at 11:26 in the railway station Ezerovo, admitted to fifth track, occupied by train No. 28702, instead of fourth free admitting and launching track, due to incorrectly prepared route.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59 / 2006	July 2010
15.04.2010	Technical investigation of railway accident - collision of freight train No. 30601 with road transportation vehicle (personal automobile ó Fiat Palio with license No. 75 66) on 15.04.2010 at 11:30 on the railway crossing at km 290+285 in the inter-station section Chintulovo ó Sliven with correctly activated automated crossing alarm	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59 / 2006	July 2010
18.06.2010	Technical investigation of railway accident – collision of passenger train No. 70206 with road transportation vehicle (personal automobile Volkswagen Golf with license No. 4741) on 18.06.2010 at 16:30 on railway crossing at km 21+294 in the inter-station section Vratsa ó Beli Izvor, with correctly activated automated crossing alarm (ACA).	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59 / 2006	August 2010



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Table with investigations initiated during 2010

Date of the occurrence	Description of the investigation	Legal grounds
04.10.2010	Technical investigation of serious railway accident occurred at 07:55 on 04.10.2010 in the inter-station section Dragoman - Dragoil at km 47+796, Head-on collision between working and servicing train No. 10352 travelling on the route Dragoman ó Dimitrovgrad RS and interstate fast train No. 293 travelling on the route Belgrade - Sofia.	An order of Minister of MTITC. On the basis Art. 5, It. 6 from RTA, Art. 76, It. 1 from Ordinance 59 2006
08.02.2010	Technical investigation of railway accident, train derailment No. 383 öBulgaria expressö Moscow - Rousse - Sofia, occurred of 08.02.2010, at 09:48, between dividing section Vlado Trichkov and station Kurilo, on road No. 2, at km 18+029.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 Ordinance 59 2006
03.07.2010	Technical investigation of railway accident, which occurred at 06:41 on 03.07.2010 in the inter-station section Aytos ó Bulgarovo on road No. 1 ó fire started in the second attached car No. 32-357.4 of passenger train No. 80251, serviced by EMT No. 32-157.0 /32-357.4 /32-358.4 /32-158.8, travelling on the route Karnobat-Burgas.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59
09.06.2010	Technical investigation of railway incident with regional fast train No. 2655, travelling on the route Pleven ó Varna, of 09.06.2010 in 11:26 in station Ezerovo admitted to fifth track, occupied by train No. 28702, instead of fourth free admitting and launching track, due to incorrectly prepared route.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59 2006
15.04.2010	Technical investigation of railway accident - collision of freight train No. 30601 with road transportation vehicle (personal automobile ó Fiat Palio with license No. 75 66) of 15.04.2010 at 11:30 on railway crossing at km 290+285 in the inter-station section Chintulovo ó Sliven with correctly activated automated crossing alarm.	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59/2006
18.06.2010	Technical investigation of railway accident – collision of passenger train No. 70206 with road transportation vehicle (personal automobile Volkswagen Golf with license No. 4741) on 18.06.2010 at 16:30 on railway crossing at km 21+294 in the inter-station section Vratsa ó Beli Izvor, with correctly activated automated crossing alarm (ACA).	An order of Minister of MTITC. On the basis of Art. 5, It. 6 from RTA, Art. 76, It. 2 from Ordinance 59

All investigations initiated during 2010 are completed during 2010 with final report to the Minister of MTITC.

3.3 Studies on safety of railway occurrences during 2010

During 2010 were existing total of 1888 railway occurrences, from which 71 accidents, including 12 when crossing railway crossings, 1 at train collision, 1 at train derailment, 57 accidents with persons, caused by RRS in traffic, from which 4 seriously injured and 18 suicides. The damages on the railway system are amounting to 826 018 EUR.

After the analysis of the investigated railway accidents, it can be said that in the main part prevail accidents on railway crossings and accidents involving persons, which are caused by vehicles in traffic, with exception of the suicides. Other accidents are caused from derailment and collision of RRS, as well as suicides.



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Table of started by their type 1888 railway occurrences registered according to the normative arrangement during 2010

No.	TYPE OF OCCURRENCES	REGION SOFIA	REGION PLOVDIV	REGION GORNA ORYACHOVI TSA	TOTAL
1.	Collision of RRS	33	16	11	60
2.	Derailment of RRS	38	26	17	81
3.	Cut railway switch	8	3	2	13
4.	Admitted train of occupied track with resulting collision	0	0	0	0
5.	Missed train	0	0	0	0
6.	Fire of RRS, freights etc.	12	9	7	28
7.	Collision on crossing	7	6	7	20
8.	Injured or dead persons	23	26	26	75
9.	Admitted train in occupied track without collision	1	0	1	2
10.	Dispatched train without approval from the next station	0	0	0	0
11.	Closure signal disregarded	1	0	1	2
12.	Dispatched train in occupied inter-station or in wrong direction	5	0	0	5
13.	Movement of train during crossing without activating the manual barriers	3	1	2	6
14.	Train with insufficient braking weight	0	0	0	0
15.	RRS left without identified distance	0	0	0	0
16.	RRS fault - carrier	173	114	112	399
17.	RRS fault - infrastructure	3	3	4	10
18.	Railway fault	7	2	6	15
19.	Safety equipment fault	23	14	17	54
20.	Contact network fault	38	30	53	121
21.	Wrong or uncoordinated actions at the OS	1	0	3	4
22.	Traffic interruption due to natural disasters, etc.	32	20	36	88
23.	Abandoned train	185	198	127	510
24.	Detached car	33	85	28	146
25.	Untimely slot response	10	8	6	24
26.	Animals run over	26	25	16	67
27.	Object placed on tracks	25	10	3	38
28.	Objects thrown at RRS or other ill-intentioned actions	51	22	10	83
29.	Train detachment	10	12	15	37
	TOTAL :	748	630	510	1888

NRIC caused 314 occurrences, which is 16.6%;

All together caused by BDZ EAD are 1017 occurrences, which is 54 %;

Other carriers caused 90 occurrences, which is 4.6%;

Other outside reasons – 467 occurrences, which is 24.8%;

Railway occurrences with damages incurred:

During 2007, as compared with 2006, the damages are (BGN) + 17 572 (EUR + 9011)

During 2008, as compared with 2007, the damages are (BGN) + 232 845 (EUR + 119412)

During 2009, as compared with 2008, the damages are (BGN) - 227 792 (EUR - 116816)

During 2010, as compared with 2009, the damages are (BGN) + 226 396 (EUR + 116100)



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Diagram of railway occurrences during 2010



During the reporting period, the inspectors of SRAIU in AMRAIUD Directorate, jointly with the inspectors of the national body in the area of safety, RA EA, performed check-ups in the companies of railway carriers and managers of railway infrastructure according to a prepared in advance approved program including the following order:

- On building, repair, maintenance and operation of railway infrastructure, traffic safety and of transportation and the technical condition of the rolling stock;
- On functioning of the systems for safety management build and maintained by the infrastructure manager and by the railway carriers;
- On observing the general requirements and conditions for safety and technical operation related to the national railway transport;
- On observing of essential requirements to the railway system for achieving operational compatibility;
- On the work of the staff members of the infrastructure manager and the carriers, as well as the activity of construction and repair companies in the area of traffic safety;
- On the harmonization of the main components for operational compatibility with the national requirements and standards in the process of design, building and operation of railway system.

During the 2010, the Minister of MTITC issued licenses for freight transport services to two more railway carriers DB Schenker Rail Bulgaria EOOD and Express Service OOD.

3.4. Summary of completed investigations during 2010

3.4.1.1 Head-on collision of working and servicing train No. 10352 with interstate fast train No. 293 in the inter-station section Dragoman – Dragoil of 04.10.2010

By the order No. -08-526 / 05.10.2010, the Minister of Transport, Information Technology and Communications appointed a commission for technical investigation of the railway accident, which occurred at 07:55 on 04.10.2010 in the inter-station section Dragoman -



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Dragoil at km 47+796, Head-on collision between working and servicing train No. 10352 on the route Dragoman ó Dimitrovgrad RS and interstate fast train No. 293 on the route Belgrade ó Sofia, with the task to study and analyze the reasons why the accident started, and to prepare a report with safety recommendations after the investigation. From the decoding of the speed measuring band of the electric locomotive No. 45-152 is clear that the two trains met and collided Head-only at 7:55 at km 47+796. The RRS did not derail during the collision. The accident resulted in material damages to the RRS. This is seen from Figure 1, Figure 2, Figure 3 and Figure 4.



Figure 1



Figure 2



Figure 3



Figure 4

Injured ó 3 passengers and members of the staff - 1 conductor of sleeping car from train No. 293;

Fatalities ó none.

Reasons for the accident:



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In conclusion of the analysis made it is clear that categorically the reason is not technical failure, decisive was the human factor. Often experienced staff is lacking, which can intervene fast and in adequate way and to offer solutions, with which to prevent certain accident.

The main decrees of the normative arrangement regulating the safe admittance and launch of the trains in the train stations, from the executive staff of SE NRIC in the train stations Dragoman and Dragoil and the executive staff of BDZ EAD in the Locomotive Depot - Sofia.

3.4.1.2 Derailment of interstate fast train No. 383 “Bulgaria express” in the inter-station section Vlado Trichkov – Kurilo of 08.02.2010

By the order of No. -08-134 / 10.03.2010, the Minister of Transport, Information Technology and Communications appointed a commission for technical investigation of railway accident ó derailment of train No. 383 “Bulgaria express” Moscow - Rousse - Sofia, which occurred on 08.02.2010, in 09:48, between dividing section Vlado Trichkov and station Kurilo, of road No. 2, at km 18+029.

The commission had to study the facts and circumstances and to establish the reasons for the accident, as well as to prepare a final report for the performed investigation.

It was established that as a result of the collision of the derailed wheel axle with the front of the free catch of switch No. 3 in station of Kurilo, are derailing third car No. 50522974150-7 with the two bogies, fourth car No. 51523143009-8 with the two bogies and fifth car No. 03514619 - with the first bogie. This is clear from Figure 1 and Figure 2. At km 18+029 is established broken part of the head of right rail in the joint and is found the piece with length of 137 mm to 2 (two) metres in the right after the broken place, in the direction of traffic.



Figure 1

From the place of derailment to the entrance switch of station Kurilo clearly are seen interrupted tracks of impact by the derailed wheel axle on the joint in the gauge and in the left side of the rail way.

Injured and fatalities – none.

Incurred are damages of the railway infrastructure and are caused damages of the RRS (4 passenger cars).

Cause of the accident



Figure 2



Figure 3

According to what is seen on Figure 3, the commission for technical investigation concludes that the cause of the accident is fresh breaking off of 137 mm piece from the head of the right rail in the direction of traffic at km 18+029 under the train No. 383 when the second bogie of the second car No. 50522974143-2 passed, which resulted in the derailment of the second wheel axle. The resulting movement in this condition of wheel axle for 4800 m without the undertaking of braking resulted in damages on the railway infrastructure and derailment of the remaining cars at switch No. 3 in the station of Kurilo.

3.4.1.3 Fire in the cabinets of the main controller of EMT No. 32-357.4 servicing passenger train No. 80251 in the direction Karnobat – Burgas on 03.07.2010

By the order of No. -08-418 /28.07.2010 the Minister of Transport, Information Technology and Communications appointed a commission for technical investigation of the railway accident, which occurred at 06:41 on 03.07.2010 in the inter-station section Aytos ó Bulgarovo on road No. 1 ó fire started in the second attached car No. 32-357.4 of passenger train No. 80251, serviced by EMT No. 32-157.0 /32-357.4 /32-358.4 /32-158.8, travelling on the route Karnobat - Burgas.

The commission studied and established the facts and circumstances during which the accident started, and prepared a report for the performed investigation.

From the starting station Karnobat the train departed at 06:09, 14 min behind the schedule, on the route of the fast train No. 8627. Until the arrival of the train in the station of Aytos are not established any technical irregularities. In the station of Aytos the train arrived at 06:40 and departed at 06:41. At the time of departure, from the train was heard a sound similar to gun shot and smoke and sparks were seen under the body of the attached car No. 32-357.4 of EMT. At the departure of the train the member of the staff who was on duty and was responsible for the traffic also noticed that after the passing of the exit light the train started to smoke and immediately notified the train dispatcher. At the same time, toward the station of Aytos, on road No. 2 was travelling train No. 80120 stopping at the station. The engine-driver of train No. 80120 noticed smoke coming out of the car of train No. 80251, and immediately gave with the torch attention signals to the locomotive engine-driver of train No. 80251 and several times sounded STOP signal with the locomotive siren. After stopping the trains the locomotive engine-driver opened immediately the doors from both sides, switched off the accumulator battery (AB) and held with hand brake. About 40 passengers were evacuated in time from the train.



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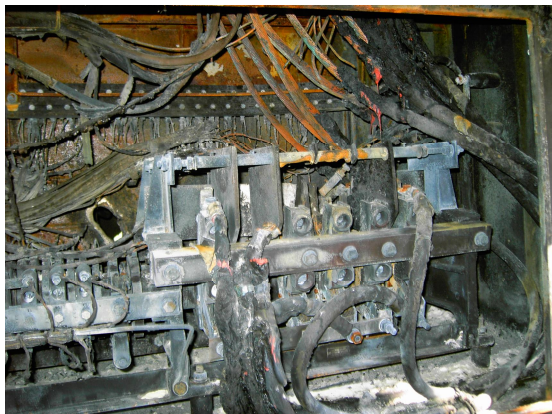


Figure 1



Figure 2

According to what is seen on Figure 1 and Figure 2, the assistant of the locomotive engine-driver and the head of the train immediately undertook actions for stopping the thick smoke from the cabinets of the main controller (MC) and the rectifying block (RB) with the available portable fire extinguishers from the electric motor train, which are 5. The locomotive engine-driver also assisted with the extinguishing. With the available fire extinguishers the participants managed to stop the fire but after 10-15 seconds they started again. At 06:50 the head of the train called 112 and asked for help from Regional service Fire safety and rescue of the town of Aytos. The fire was extinguished at 07:30 or fifteen minutes after the arriving of the first fire truck.

Traffic of the trains in the inter-station section Aytos or Bulgarovo on road No. 1 was restored at 08:49.

The EMT No. 32-157.0/32-158.8 had emergency repair in Locomotive Depot Stara Zagora. EMT is launched in regular operation on 16.08.2010.

As a result of the analysis of the collected documents certifying the technical condition of EMT No. 32-157.0/32-158.8, the realized planned repairs and check-ups, were established violations of the "Rules for depot repair and maintenance of the electric motor trains of BDZ or series 32.000" valid from 01.06.1987, of the organization, procedures and technologies of the repair work when performing depot repair.

Injured and fatalities or none

Incurred are damages of the RRS (EMT).

Cause of for the accident:

The commission for investigation concludes that the immediate technical cause of for started accident - fire in the cabinet of the train rectifier and in the cabinet of the main controller of section No. 32-157.0/32-357.4 from EMT 32-157/32-158 is the short circuit in the power circuit at traffic regime of section No. 32-157.0/32-357.4 from EMT, after departure of train No. 80251 from the station of Aytos.

Main technical cause of the accident:

- The leakage of vents in the shoulder VP1 of the train rectifier of section No. 32-157.0/32-357.4 from EMT is caused by fault started in the main controller after the release of EMT from main repair done in Locomotive Depot Plovdiv – section Stara Zagora;

- Defects in the work and control of the repair staff during the repair operations of EMT section No. 32-157.0/32-357.4 in Locomotive Depot Stara Zagora.

3.4.1.4 Admittance of fast train No. 2655 in station Ezerovo to the fifth track occupied by a shunting train No. 28702, instead of fourth admittance and departure track, due to incorrectly prepared route on 09.06. 2010



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By the order of No. -08-325/11.06.2010, the Minister of Transport, Information Technology and Communications appointed a commission for technical investigation of railway incident with regional fast train No. 2655, travelling on the route Pleven ó Varna, on 09.06.2010 about 11:26 in the station of Ezerovo, admitted to fifth track occupied by shunting train No. 28702, instead of fourth free admitting and launching track, due to incorrectly prepared route.

The commission was to analyze the facts and circumstances and to establish the reasons for incident, and to prepare final report for the investigation.

Train No. 2655 entered the station of Ezerovo and went to 5 track occupied by shunting train No. 28702. The locomotive engine-driver noticed the train standing on 5 track and stopped train No. 2655 at about 35 metres from it. The locomotive engine-driver of train No. 28702 saw the coming against him train and gave STOP signal.

There was a real prerequisite for serious railway accident ó collision between the entering train No. 2655 and train No. 28702.

Violated is Plan ó 24 due to repair and check-up of the contact network in the inter-station section Beloslav ó Ezerovo on road No. 1. The diagram for traffic of the trains was corrected and on the above mentioned dates in the inter-station section Beloslav ó Ezerovo the trains were using the incorrect road No. 2 by the telephone method. The staff member on duty in the station of Ezerovo, the first person on the line, did not observe the procedures and technology of work in the station.

Injured and fatalities ó none.

Material damages ó none.

Cause of for incident:

The admittance of train No. 2655 in the station of Ezerovo on 5 track occupied by shunting train No. 28702 was caused by the wrong operations of the staff member on duty in the station of Ezerovo, the first person on the line, who did not prepare the correct way switch No. 18 according to the route of trains, did not check it and did not lock it by the means of EMC by turning the track signal handle to 30 degrees for exit to 4 track for road No. 2 at the side to the station of Beloslav before giving approval to the train by the telephone form-2.

3.4.1.5 Collision of freight train No. 30601 with personal automobile on railway crossing in the inter-station section Chintulovo - Sliven with correctly activated automated crossing alarm of 15.04.2010

By the order of No. -08-205 /23.04.2010, the Minister appointed a commission for technical investigation - collision of freight train No. 30601 with road transportation vehicle (personal automobile ó Fiat Palio with license No. 75 66) on 15.04.2010 at 11:30 on railway crossing at km 290+285 in the inter-station section Chintulovo ó Sliven with correctly activated automated crossing alarm.

On 15.04.2010, train No. 30601 with electric locomotive No. 46-044 with engine-driver and assistant engine-driver from Locomotive Depot Burgas. Nearing the railway crossing at km 290+285, equipped with automated crossing alarm (ACA), the engine-driver gives signal Attention by the front light and pre-crossing indicator. ACA is correctly activated and works properly. When the train enters the crossing area with speed of 51 km/h suddenly from the automobile road before it appears moving personal automobile Fiat Palio and the driver did not stop before the crossing, despite the red blinking lights on the road and the sound signal. This is seen on Figure 1 and Figure 2.



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Figure 1



Figure 2

Seeing the car, the locomotive engine-driver activates the train brake in regime *fast braking*, according to what is seen on speed measuring band of the locomotive but due to the short distance, despite the fact that the train was secured with the necessary brake weight, it was not possible to avoid the head-on collision of the locomotive with the automobile and this happened at 11:30.

During the investigation of the railway accident it was established that on the crossing at km 290+285 at the side of the automobile road are missing signs 34.1 and B2, according to what is seen in the statement of facts.

By letter No. 611/22.04.2010 from the director of railway section Karlovo is notified the chairman of the operational group and the missing signs are restored after the accident.

Injured - a female passenger in the automobile without danger for her life;

Fatalities - the driver of the automobile and a female passenger next to him;

Incurred damages of electric locomotive No. 46-04.

Cause of for the accident:

Incorrect passing of personal automobile Fiat Palio with license No. CH 75 66 HC driven by regular driver during railway crossing at km 290+285 in the inter-station section Chintulovo – Sliven with correctly activated automated crossing alarm due to the imminent passing of train No. 30601.

3.4.1.6 Collision of passenger train No. 70206 with personal automobile on railway crossing in the inter-station section Vratsa – Beli Izvor, with correctly activated automated crossing alarm of 18.06. 2010

By the order of No. -08-354/28.06.2010 the Minister of Transport, Information Technology and Communications appointed a commission for technical investigation of railway accident – collision of passenger train No. 70206 with road transportation vehicle (personal automobile Volkswagen Golf with license No. 4741) on 18.06.2010 at 16:30 on railway crossing at km 21+294 in the inter-station section Vratsa ó Beli Izvor, with correctly activated automated crossing alarm (ACA).

The commission was to analyze the facts and circumstances, to establish the reasons of the accident and to prepare final report for the investigation.

On 18.06.2010, train No. 70206 was serviced by EMT No. 32-109/110 with engine-driver and assistant-engine-driver from Locomotive Depot Mezdra. After departure from stop Vratsa to the station of Beli Izvor, the engine-driver gave signal Attention before pre-crossing light and before pre-crossing indicator.



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About 100 metres before the crossing, the locomotive engine-driver saw that the automobile enters the danger zone of the crossing and stops on the rail way. The locomotive engine-driver immediately activated the automated train brake in regime "fast braking", according to what is seen on the speed measuring band of EMT but due to the short distance it was not possible to avoid the collision with the automobile and this happened at 16:30. Evidence that ACA was working correctly at the moment of collision is the statement of facts for the condition of ACA, as well as the picture material produced after the accident. This is seen on Figure 1 and Figure 2.



Figure 1



Figure 2

By the collision, the automobile was thrown away from railway crossing in the left, 10 metres after the crossing. The train was stopped 300 metres after the crossing.

The investigation policemen and the operational group made examination of the equipment of the crossing and a statement of facts for ACA was drafted. After releasing the traffic are made tests of ACA. It was established that in both directions ACA works properly. This is seen on Figure 3.



Figure 3

Injured ó none;

Fatalities ó the driver of the road transportation vehicle;

Material damages ó none

Cause of for the accident:

The most probable cause for the occurred accident, established by the analysis of the facts and the circumstances is the incorrect passing of the road transportation vehicle – personal automobile Volkswagen Golf with license No. BP 4741 AC, driven by regular driver during railway crossing at km 21+294 in the inter-station section Vratsa – Beli Izvor with correctly activated automated crossing alarm due to the imminent passing of train No. 70206.



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3.4.2 Summary of accidents investigated from commission appointed from RA EA, for which AMRAIUD Directorate has given immediate safety recommendations

3.4.2.1 Derailment of fast train No. 3620 Chaika at the entrance switches of the station of Septemvri on 18.10.2010

By the order of the executive director, the Executive Agency Railway Administration appointed a commission for technical investigation of railway accident ó derailment of fast train No. 3620 Chaika on 18.10.2010 at 11:30 at the entrance switches of the station of Septemvri. SRAIUU in AMRAIUD Directorate required copy of the collected documents and materials from the appointed commission for investigation in the initial stage of clarifying the circumstances and the objective of giving immediate safety recommendations addressed to RA EA and BDZ EAD.

Chronology of the occurrence, at which the accident was caused

On 18.10.2010, the fast train Chaika No. 3620 with 5 cars, 215 tons departs from the station of Burgas at 5:35. The train is serviced by electric locomotive No. 46-205.1 with locomotive engine-driver and assistant engine-driver and head of train with two conductors.

In the station of Pazardzhik the train arrives at 11:15 and departed at 11:16.

After the departure of the train from the station of Pazardzhik, the staff member on duty who is the first person on the line in the station of Septemvri in 11:22, by the means of station centralization, gives entry route for fast train No. 3620 on second main track (free). The entry signal was opened and the train enters the station at 11:30.

The staff member on duty, who is the second person on the line in the station meeting the train on second main track, sees that the same stops at the entrance switches of the station. Also, he notices the staff member on duty who is the first person at the station of Septemvri according to the testimony of the video display of the computer centralization (CC), connects to the person on duty at the switches on post No. 2 and asks why the train stopped. The person on duty at the switches on post No. 2 reports that the third, fourth and fifth car of the train are derailed.

The head of traffic on duty immediately reports at 11:32 for the incident of the train to the dispatcher in CRI ó Sofia and the train dispatcher in CRI ó Plovdiv.

Traffic of the trains also on road No. 1 and No. 2 in the inter-station section Septemvri ó Pazardzhik was stopped from 11:30 to 19:05.

Injured - none;

Fatalities - none;

Material damages to the locomotive, the three cars and the railway infrastructure.

Cause of for the accident:

When the train entered the entrance switches of the station of Septemvri, a lower cover from the wheel axle reductor of sixth wheel axle fell in the direction of traffic, on the electric locomotive No. 46-205.1 and caused derailment of the last three cars from train No. 3620.

During the operational check-up of the locomotive No. 46-205.1 made on 16/17 .10. 2010 in Depot Burgas some omissions in the check-up of the condition and the fastening of the wheel axle reductors, which are not recorded in the board journal of the locomotive for performing of the check-up and no established violations are entered in the Journal of emergency repair Form JIII-9 on 17/18 .10. 2010. The locomotive No. 46-205.1 is abandoned in Depot Burgas but operational check-up is not made and the technical condition of the locomotive is not checked, since entries about such check-ups are missing in the board journal.

3.4.2.2 Summary of incident – collision of fast train No. 3622 with personal automobile of railway crossing in the inter-station section Chintulovo – Sliven on 24.10.2010 with correctly activated automated crossing alarm.



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With Minutes No. 520 from the meeting of section commission for analysis of accidents held by RRI ó Plovdiv from Executive Agency Railway Administration (RA EA) on 08.11.2010 for clarification of the reasons and circumstances for the railway incident.

Chronology of the occurrence with caused incident

On 24.10.2010, train No. 3622 with electric locomotive No. 44-87. During the movement of the train in the inter-station section Sliven ó Chintulovo, nearing the crossing at km 290+285 equipped with correctly activated automated crossing alarm (ACA), the locomotive engine-driver gives signal Attention with the locomotive siren. At the same time from the left side in the direction of the train movement, on the road toward the crossing is travelling a personal automobile. The locomotive team gives several times signal Attention. Seeing that the automobile continues to travel and does not stop before the crossing, the locomotive engine-driver undertakes fast braking with the train brake. Despite this, a collision with the automobile results. In the automobile were travelling the driver and three other persons. On the place of incident arrived the investigation bodies of MI, the injured were taken to the hospital. After braking train, it becomes clear to the locomotive team that there are damages to the locomotive and it cannot continue to service the train. After permit ion by the investigating bodies of MI, the train departed from the station of Sliven on its route 251 min behind the schedule.

Injured ó three passengers in the automobile;

Fatalities ó the driver of the automobile;

Incurred are damages of electric locomotive No. 44-87;

Reasons for incident:

The driver of the automobile undertook incorrect passing of the railway crossing with correctly activated ACA immediately before the coming train.

This is a violation of Ordinance 58 / 2006 of the Ministry of Transport and the Road Traffic Act.

3.5 Analysis and background of investigations started but not continued during 2010

All investigations started during 2010 are completed with final reports to the Minister of MTITC during 2010.

3.6 Accidents and incidents during the last five years 2006 – 2011

Table of investigated accidents and incidents in the period 2006 – 2010

Investigated		2006	2007	2008	2009	2010	Total
Serious Accidents under Art. 19.1+2	Train Collision	-	-	-	-	1	1
	Train Collision with Obstacles	-	-	-	-	-	0
	Train Derailment	1	-	-	-	1	2
	Accident on Railway Crossing	1	-	-	-	2	3
	Accident involving human and caused by moving RRS	-	-	-	-	-	0
	Fire in RRS	-	-	1	1	1	3
	Accidents involving hazardous cargo	-	-	-	-	-	0
Other under Art.21.6	None	-	-	-	-	-	0
Incidents		-	-	-	-	1	1
TOTAL		2	0	1	1	6	10



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Diagram of investigated accidents and incidents during the period 2006 – 2010



4. RECOMMENDATIONS

4.1 Summary and presentation of the recommendations

Safety recommendations given after the preformed investigations of railway occurrences from SRAIU in AMRAIUD Directorate during 2010 on the basis of national normative arrangement and according to the assessment of the unit.

Recommendations given in the period of 2006 – 2010

Given Recommendations		Status of introducing the recommendations		
		Introduced	In the process of introducing	Unintroduced
Year	Amount	Amount	Amount	Amount
2006	4	4		-
2007	-	-		-
2008	4	4	-	-
2009	8	8	-	-
2010	33	18	7	3
TOTAL	49	34	7	3



Diagram of the recommendations given by SRAIU in the period of 2006 – 2010



4.2 Safety recommendations given by SRAIU during 2010

4.2.1 Safety recommendations in the final report of investigated accident in the inter-station section Dragoman – Dragoil of 04.10.2010

1. RA EA to order extraordinary check-up for observing the normative arrangement regulating the procedures for safety in the railway transport, in the process of admittance and transferring the duty from heads of traffic and locomotive brigades and documentary reflection of the available facts and circumstances;

2. RA EA to order preparing and introduction of emergency operational cards describing the sequence of action of the heads of traffic and locomotive engine-drivers when an immediate danger of railway accident arises;

3. RA EA to order holding of training workshop with the heads of traffic and locomotive brigades for action when a danger of railway accident arises. The attendance of the employees to be reflected in the Minutes;

4. RA EA to order the performing of check-up of the order for use of company phones and radios and to order their use only for business conversations;

5. RA EA to order the creation of section at the train stations and the inter-station section which will show the lack of coverage and the unavailability of radio and GSM connection between the head of traffic and the locomotive engine-driver.

6. The Director General of SE NRIC and the Executive Director of BDZ EAD to perform periodical sudden check-ups of the operational staff during the time of transferring and admittance of the duties on the working places.

7. According to the valid Systems for safety management (SSM), the Director General of SE NRIC to undertake the necessary measures for change of Plan -24 for admittance and launch of



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working and servicing train in the station of Dragoman from the track with repeated exiting light and equipped with platform for boarding and disembarkment of the staff members travelling daily from and to the station of Dimitrovgrad RS.

4.2.2 Safety recommendations in final report for the accident in the inter-station section Vlado Trichkov – Kurilo on 08.02.2010

1. The Director General of SE NRIC to order extraordinary check-up of some critical sections on the rail way related to the integrity of the rails with means of undestructive control.

2. The main safety inspector in SE NRIC to perform control check-up on the fulfilment of It. 1 and to report in writing to the Director of AMRAIUD Directorate in MTITC.

3. The Executive Director of BDZ to update:

- The rules for middle repair of passenger cars;
- The instructions for routine maintenance and repair of all types of passenger bogies;
- Protocols for balance of passenger cars;
- Instructions for check-up, repair and testing of air-cushion;
- Instructions for car axles;
- Instructions for the train conductor;
- Instructions for the head of passenger train.

4. Until 20.06.2010, the Executive Director of BDZ EAD to present in RA EA the instructions under It. 3 for updating of the system for safety management of the carrier.

5. The Executive Director of BDZ EAD to undertakes measures for certifying the railway rolling stock according to the requirements of the Railway Transport Act.

4.2.3 Safety recommendations in final report for the accident in the inter-station section Aytos - Bulgarovo, on 03.07.2010

1. The leaders of Bulgarian State Railways EAD to take immediate measures for renewing the certificate of safety in order to certify the suitability for traffic of the rolling stock on the railway network, since it was valid till 01 of July, 2009.

2. The leaders of Bulgarian State Railways EAD to order the holding of special training of the locomotive brigades in connection with the danger of fire in the rectifiers, the main controllers, the reactors and the adjacent cables of EMT, series 32-00.

3. To experiment also with regards of the possibility to introduce local aerosol system for fire extinguishing in the cabinets of the train rectifier (RB), the main controller (MC) and the reactor (RE).

4. The leaders of Bulgarian State Railways EAD to regulate the norms for performing of check-up, repair and control (including observing the mechanic, geometric and electric standards of operation) of all elements and their connecting cables, participating in the power circuit, in the regime *õtravelö*, as well as in the regime *šbrakingö*, when a failure occurs and during the emergency repair.

5. To be measured the angle diagram of the main controller, the diagram taking of the distribution of power for the rectifiers and tuning of maximum power protectors of the rectifiers of EMT series 32-00, according to the approved methods and in all cases of fault and after emergency repair of an element participating in the power circuit, in regime *õtravelö*, as well as in regime *õbrakingö*.

6. Having in mind the omissions made during the time of performing of repair operations in the specialized units for repair of EMT series 32-00, to make precautions regarding additional training and familiarizing with the technical requirements when performing depot repair, for the repair staff involved with this activity. To raise the level of the technical control during admittance, repair and transferring of EMT series 32-00 from the leading repair staff and QuC, in order not to allow violations of the requirements on which the technology of the performed depot repairs is based.



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7. To control the condition and to bring in good working order the gaskets of the covers of the boxes of the train rectifier (RB), the main controller (MC) and the reactor (RE).

4.2.4 Safety recommendations in the final report for the incident in the station of Ezerovo on 09.06. 2010

1. To continue the work on improving the qualification of the staff members and the establishing of correct habits for the ensuring of train traffic safety.

2. To improve the quality of the control and methodical instructions on the work of the train station staff.

3. To reduce the influence of the subjective factor in the ensuring of the train traffic safety by means of equipping the train stations and the inter-station sections with safety devices meeting the modern requirements, with possibility for traffic without persons on the double railway routes and correct signals.

4.2.5 Safety recommendations in the final report for the accident in the inter-station section Chintulovo - Sliven on 15.04.2010

1. Until the 30.06.2010, the Director General of State Enterprise National Railway Infrastructure Company (SE NRIC) is to initiate procedure for closing the crossing at km 290+285 in the inter-station section Chintulovo ó Sliven.

2. The Director General of SE NRIC to take the necessary measures for control of the availability and the condition of the road signs for marking the railway crossings, in order to restore them promptly after their stealing or violation.

4.2.6 Safety recommendations in the final report for the accident in the inter-station section Vratsa – Beli Izvor on 18.06.2010

1. In order to minimize the risks of accidents on the railway crossings, due to violation of the Road Traffic Act by the drivers of road transportation vehicles, the manager of the railway infrastructure should analyze the risk crossings and should equip them with video surveillance, which is to be made jointly with the national and municipality authorities.

2. On crossings with more intense road traffic, the manager of the railway infrastructure should re-equip the crossings with automated crossing management (ACM), barriers and closing the whole road for the traffic of road transportation vehicles.

3. To analyze the traffic schedule of the trains in the sections with intense traffic of road transportation vehicles during the crossings, in order to decrease the time, during which the crossing is closed.

4. On the automobile road, parallel to the railway route, to install second traffic lights, according to Art. 56, Par. 3 of Ordinance 4 for railway crossings, from 27 March 1997.

4.3.1 Safety recommendations given by AMRAIUD Directorate in the initial stage of undertaken technical investigation by RA EA – derailment of cars from train No. 3620 in the station of Septemvri on 18.10.2010

1. BDZ EAD to perform check-up on the technology of the process for multilevel control during the operational check-ups and to establish a system for introducing unified operational cards describing the whole technology, sequence of the technology processes and control, description of the persons performing and persons controlling the operational check-ups of the electric and diesel locomotives and cars.

2. BDZ EAD to order the performing of extraordinary inspection on the flanges on the upper and lower surface of the sleeves of the reductors of electric locomotives series 46-00, at the



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object perimeter.

3. BDZ EAD to order the increase of the frequency of the operational check-ups performed according to the diagram of the operational technological card of measure No. 1 for all series of electric and diesel locomotives.

4.3.2 Safety recommendations given by AMRAIUD Directorate in the initial stage of undertaking the technical investigation by RA EA - collision on the railway crossing between train No. 3622 and road transportation vehicle in the inter-station section Chintulovo - Sliven on 24.10.2010

1. SE NRIC to make the railway crossing in harmony with the requirements of Art. 23 of Ordinance 4 / 27.03.1997 for the railway crossings.

2. Due to limited summary of the railway crossing under Art. 16 and Annex No. 3 to Art.16, Par.1, SE NRIC is to form a commission, which to offer the equipment with additional technical means apart from those, which are taken under Annex No. 4 to Art.19 of the Ordinance, and to coordinate them with RA EA, and to offer them for approval by the Minister of Transport, Information Technology and Communications.

Boycho Skrobanski
Chief inspector
in AMRAIUD Directorate

Atanas Kostov
Director of Directorate
AMRAIUD in MTITC