*Translation from Bulgarian language*

**REPUBLIC OF BULGARIA**

**MINISTRY OF TRANSPORT,**

**INFORMATION TECHNOLOGIES AND COMMUNICATION**

**SPECIALIZED UNIT FOR INVESTIGATIONS OF ACCIDENTS AND INCIDENTS IN RAILWAY TRANSPORT (SURIAI)**

**ANNUAL REPORT**



**2018**

The present report is issued in accordance with:

* Directive 2004/49/ЕО;
* Railway Transport Act 2000, prom., in force since June, 2015;
* Ordinance № 59, 2006, prom., in force since July 31, 2015.

The acts are accessible at:

https://www.mtitc.government.bg/bg/category/161

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# Preface

This annual report presents the investigated railway events and the safety

recommendations issued in 2018, as well as the activities of the national investigation authority in the Republic of Bulgaria, in accordance with Art. 23 para 3 of Directive 2004/49 / EC on rail safety in the Community.

The report presents the activities of the national investigative body, which in the Republic of Bulgaria is the Specialized Unit for Investigation of Accidents and Incidents in the Railway Transport (SURIAI) at the Ministry of Transport, Information Technology and Communications (MTITC). Its status and functions are enshrined in the Railway Transport Act (RTA), Ordinance No. 59 of December 5, 2006 on Railway Safety Management, Ordinance No. H-32 from September 19, 2007, on the coordination of actions and the exchange of information in the investigation of railway accidents and incidents with pre-trial bodies and the Rules of the specialized unit for investigation of accidents and incidents in railway transport.

This annual report presents the investigated railway events and the safety recommendations issued in 2018, as well as the activities of the national investigation authority in the Republic of Bulgaria, in accordance with Art. 23 para 3 of Directive 2004/49 / EC on rail safety in the Community.

The report presents the activities of the national investigative body, which in the Republic of Bulgaria is the Specialized Unit for Investigation of Accidents and Incidents in the Railway Transport (SUIRAI) at the Ministry of Transport, Information Technology and Communications (MTITC). Its status and functions are enshrined in the Railway Transport Act (RTA), Ordinance No. 59 from December 5, 2006 on Railway Safety Management, Ordinance No. H-32 from September 19, 2007, on the coordination of actions and the exchange of information in the investigation of railway accidents and incidents with pre-trial bodies and the Rules of the specialized unit for investigation of accidents and incidents in railway transport.

The report includes data on the investigations of rail accidents in 2018, including the reasons for their occurrence and the recommendations made to improve railway safety, as well as information on the measures taken by the addressees to implement them. Aggregated data on the railway events and damages reported in 2018, reported by " Railway Infrastructure Manager", respectively, Railway Infrastructure National Company (RINC) and the railway carters.

# INVESTIGATIVE BODY

## Legal base

In relation to the requirements of Directive 2004/49 / EC of the European Parliament and of the Council from April 29,2004 on the safety of railway transport in the Community, which has been transposed into the "Railway Transport Act" (RTA) and Ordinance No 59 / December 05, 2006 on the railway safety management.

In 2006, an independent national railway accident and incident investigation body was established in the Republic of Bulgaria - SUIRAI at MTITC.

SUIRAI is a part of the Aircraft, Maritime and Railway Accident Investigation Unit (AMRAIU) at MTITC. The Directorate is a multimodal body consisting of three independent specialized units for the investigation of aviation, maritime and railway events.

SUIRAI is a national railway accident investigation body in the Republic of Bulgaria, which in its organization and decision-making is independent of the railway infrastructure manager, railway undertakings and the national safety authority (NSA), which in the Republic of Bulgaria is the “Executive Agency Railway Administration” (EARA).

## Purposes and functions

The purpose of SUIRAI in its investigation is to identify the circumstances and causes that has led to the occurrence of railway accidents and incidents and to make effective recommendations in order to improve rail safety.

The investigation aims to identify the circumstances and the reasons that led to their implementation with a view to improve safety and prevent others without seeking personal responsibility and guilt.

SUIRAI's functions and tasks are set out in detail in national regulations.

Main functions and responsibilities of SUIRAI:

- Organization and management of investigations into serious railway accidents and incidents occurred on the territory and at the border crossings of the Republic of Bulgaria;

- Identifying the causes, circumstances, and facts related to the occurrence of serious accidents and incidents, including identification of evidence, analysis, including the human factor, decision making, preparation of technical expertise and documentation;

- Coordination of investigative activities with the competent investigative bodies of the Prosecutor's Office of the Republic of Bulgaria - National Investigation Service (NIS) and the Ministry of Interior (MoI);

- Prepare and send to all interested parties a draft final report on accident and incident investigation;

- Prepares and sends to all interested parties and publishes a final investigation report with safety recommendations given to prevent other accidents of this nature;

- Participation in the activities of the Network of National Investigation Authorities of the EU Member States, coordinated by the European Union Agency for Railways (ERA);

- Participation in working groups to harmonize national regulations with European legislation related to the safety and investigation of railway accidents and incidents;

- Analysing data on accidents and incidents in the railway system;

- Keeping an archive of investigated accidents and incidents and maintaining an information database;

## Organization of the activities

The main activity of SUIRAI in its capacity as a national investigative body is to investigate occurrences of railway events classified in accordance with Art. 19 of Directive 2004/49 / EC.

In 2018, SUIRAI investigated railway events by:

- Head of SUIRAI with the qualification of Doctor, Master-Engineer in the specialty "Operation and management of railway transport";

- External experts on civil contracts relevant to the accident with qualification and experience.

SUIRAI budget funds are planned and provided by MTITC.

Investigation decisions shall be taken by the Head of SUIRAI in accordance with the requirements of:

- Directive 2004/49 / EC;

- Railway Transport Act;

- Ordinance No 59 / December 05, 2006 on railway safety management.

SUIRAI informs ERA in writing of any investigation of a railway event through the ERAIL system. The investigations shall be completed by the preparation of a draft report and a final report, which shall be made publicly available on the MTITC website.

SUIRAI informs ERA in writing of every completed investigation, providing an electronic copy of the original final report in English. After validation by ERA, the final report is publicly available on the Agency's website.

**International activities during 2018**

1. Participation of 2 (two) investigation inspectors in a proposal for systematic reporting in ERA - Part I, a Data System for COR Management and Reporting by EU Member States, held on January 10 and 11 2018.

2. Participation of the Head of SUIRAI in the 36th Plenary Session of the Network of Railway Accident Investigation Bodies of the EU Member States held on February 07 - 08 2018.

3. Participation of the Head of SUIRAI in the 37th plenary session of the Network of Railway Accident Investigation Bodies of the EU Member States held on May 30 - 31 2018.

4. Participation of the Head of SUIRAI in a seminar on European Railway Human and Organizational Factors in the investigation conducted on November 14-15 2018.

5. Participation of the Head of SUIRAI in the 38th Plenary Session of the Network of Railway Accident Investigation Bodies of the EU Member States held on November 21-22 2018.

6. Participation of the Head of SUIRAI in a seminar on Joint Reporting on Railway Events (COR) - Part II, System Proposal and Impact Assessment, held on December 06-07 2018.

**Participation of SUIRAI in other events**

1. After receiving monthly statistical information on general safety indicators from the Railway Infrastructure Manager and Railway Undertakings, in accordance with the requirements of Ordinance No. 59 /December 5, 2006, SUIRAI analyzes and summarizes the data on railway safety management. In this context, a safety management analysis for 2017 was made based on the data provided in the annual reports submitted by the railway infrastructure manager and the railway undertakings;

2. SUIRAI is informed on a daily basis of the reports on irregularities in the operation of the railway network, prepared by the duty staff of RINC, regarding the safety requirements;

3. Preparation and publication of an annual activity report for the previous year, which was sent within the time limit of the Agency for Railways of the European Union.

4. Participation in a working group jointly with the National Safety Authority (EARA) to amend the Railway Transport Act.

5. Participation in a working group jointly with the national safety authority (EARA) to amend and supplement Ordinance No. 59 on railway safety management.

6. Participation in a working group with representatives of the Prosecutor's Office of the Republic of Bulgaria and the Ministry of the Interior to prepare an Agreement for interaction in the investigation of accidents and incidents in the air, maritime and rail transport between the Prosecutor's Office of the Republic of Bulgaria, the Ministry of Interior and the Ministry of Transport, Information Technology and Communications, effective from April 17, 2018.

**1.4.** **Organization scheme**

In order to create the necessary conditions and organization for timely and effective operational activity, in the process of conducting an investigation, SUIRAI coordinates its actions with state investigative bodies of pre-trial proceedings, the Prosecutor's Office of the Republic of Bulgaria, the National Investigation Service and the Ministry of Interior, which carry out parallel pre-trial investigation. If necessary, a regulated exchange of information acquired by the individual investigative bodies in the order of implementation of the Agreement on cooperation in the investigation of accidents and incidents in the air, maritime and rail transport between the Prosecutor's Office of the Republic of Bulgaria, the Ministry of Interior and the Ministry of Transport, Information Technology and Communications, effective 17.04.2018.

In the course of the investigation, SUIRAI establishes working contacts and coordinates its actions with the railway infrastructure manager, railway undertakings / carriers, national safety authority and users of railway services in relation to the investigated accident or incident to provide investigative information, as well as other independent institutions and specialized administrations for the preparation of expertise.

**Cooperation of SUIRAI with other bodies and institutions**

# PROCESS OF INVESTIGATION

## Events which are subject to investigation

The railway events referred to in Directive 2004/49 / EC, the RTA and Ordinance No 59 may be investigated by SUIRAI as follows:

- Severe rail accidents;

- accidents and incidents which, in different circumstances, could have led to the consequences of serious rail accidents;

- At its discretion, it may also investigate technical failures in structural subsystems and interoperability constituents, taking into account their importance.

In the event of an accident or incident, the authorized officials of the Railway Infrastructure Manager and the Railway Undertakings immediately notify the Head of SUIRAI in accordance with the approved RINC Safety Procedures, in accordance with the RTA and Ordinance No. 59.

## Institutions, connected to the investigation.

After a classification of a railway event and a decision to investigate, an investigation commission is set up by the Head of SUIRAI. The Commission is guided by a Chairman - the Head of Unit, which he includes independent external experts from the scientific community and universities, with relevance to the specifics of the event being investigated. In the course of and for the purpose of the investigation, the Chairman of the Commission assigns technical expertise, requests analyzes and opinions from:

- Transport Research Institutes;

- Technical University of Sofia;

- "Todor Kableshkov" Higher Transport School;

- Professional training centers for railway personnel;

- Bulgarian Academy of Sciences;

- National General transport hospitals in the country;

- Other institutions according to the specific case.

**Structure of the commission for investigation of railway events**

## 

## Process of Investigation and methods of the investigation body

Whenever a SUIRAI Head is notified of a railway event, he/she classifies it in accordance with the regulations. Following the Head of SUIRAI discretion, immediate actions are taken to move quickly to the scene of the event. All interested parties in the event shall be informed of the decision to initiate an investigation. Within one week of the initiation of the investigation, SUIRAI informs the ERA in writing of the investigation initiated through the ERAIL system.

The chairman of the commission directs and coordinates the investigation activity independently of the pre-trial bodies - Prosecutor's Office of the Republic of Bulgaria, NIS, MoI, "Emergency Medical Assistance", Fire Safety and Population Protection (FS&PP) and other institutions in order to secure the necessary conditions for an independent investigation. The Railway Infrastructure Manager, the Railway Undertaking and the other legal entities involved in the event provide the Investigation Commission with all records and conversations of the staff involved in the management of trains' movement, as well as any other relevant information and documents related to the signalling, railway and rolling stock. At the request of SUIRAI, the national safety authority (EARA) provides any relevant information that makes the accident or incident under investigation clear. The Commission conducts meetings and interviews with the personnel involved in the accident, as well as with eyewitnesses and witnesses to the event, and requires written statements from all legal and natural persons, directly and indirectly, related to the event. The Commission receives the full support and assistance of the competent state investigative bodies of the Prosecutor's Office of the Republic of Bulgaria and the Ministry of Interior, which conduct their parallel investigation in accordance with the requirements of the Criminal Procedure Code(CPC).

SUIRAI's safety investigation is conducted as openly as possible in order to exchange information, views, and opinions at all levels and with all parties involved in the event. The Commission analyzes the documents, materials, opinions and expertise collected before, during and after the accident, in order to clarify the circumstances and causes that have led to its occurrence.

Depending on the severity of the investigated accident, the chairman of the commission prepares a draft final report, which sends to all participants in the accident, EARA, affected representatives of structures and organizations, as well as to the relatives of the victims of the accident. Every accident or incident within one year from the date of its occurrence shall be concluded with a final report, otherwise, an interim report shall be prepared, describing the actions taken to date. The final report sets out the timeline of the events, the actions of the staff, describes the established data on killed and injured persons and material damages, includes an analysis of the event and the circumstances and justifies the reasons for its occurrence. If necessary, recommendations are made for improving safety, with a view to preventing other events of a similar nature, which are addressed to the EARA and the direct contractors - the railway infrastructure manager of RINC and the railway undertakings/carriers involved in the accident and, where appropriate, to others interested participants in the event. The addressees of the recommendations are obliged to inform the Head of SUIRAI in writing once a year of the measures taken to their implementation.

SUIRAI shall inform the ERA in writing of the completion of the investigation by entering information, including investigation data and recommendations transmitted, through the ERAIL information system interface and attach a copy of the original final report in English. The final report shall be made publicly available on the SUIRAI website in the MTITC Internet portal.

## Safety Researches on reports from 2018

SUIRAI received annual reports from the Railway Infrastructure Manager and Railway Undertakings with a total of 639 rail events in 2018, of which:

- 294 accidents, incl., 0 - train collision with a railway vehicle, 154 - collisions of a train with an obstacle, 38 - derailment of RS, 23 - crossing accidents, 49 - accidents with people, 7 - fire in RS and 13 others;

- 39 incidents, incl. 18 - damages to the railway, 18 - passed by prohibition signal, 3 - breakage of RS rail wheel and 0 - damage to SE;

- 306 incidental situations.

"Railway Infrastructure" National Company has registered 42, significant accidents - incl. 1 train collision with an obstacle within the construction gauge clearance, 1 derailment, 10 crossing accidents, 33 human accidents caused by rolling stock except for suicides and suicide attempts and 2 rolling stock fires.

Aggregated data on rail accidents indicate that in 2018:

- 18 were killed;

- 29 were seriously injured as a result of accidents involving people caused by rolling stock on the move;

- 15 suicides;

- 1 suicide attempt.

The material damage value to the rolling stock and railway infrastructure resulting from significant railway accidents amounted to BGN 2,096,253 (EUR 1,071,814).

Summary data on railway events by type occurring in 2018 are presented in Table 1:

Table 1: Railway events registered by RINC in 2018.

| **№** | **TYPE OF EVENTS** | **NUMBER** |
| --- | --- | --- |
| **ACCIDENTS** | | |
| 1 | Train collision with a railway vehicle | 0 |
| 2 | Collisions of a train with an obstacle | 154 |
| 3 | Derailment of RS | 38 |
| 4 | Crossing accidents | 23 |
| 5 | Accidents with people | 49 |
| 6 | Fire in RS | 7 |
| 7 | Other | 13 |
| **Total**: | | **294** |
| **INCIDENTS** | | |
| 1 | Damages to the railway | 18 |
| 2 | Damage to SE | 0 |
| 3 | Passed by prohibition signal | 18 |
| 4 | Breakage of RS rail wheel | 3 |
| **Total:** | | **39** |
| **INCIDENTAL SITUATIONS** | | |
| 1 | Damage to RS of RI, which have caused delay | 16 |
| 2 | Damage to railway | 97 |
| 3 | Damage to SE | 59 |
| 4 | Damage to contact network | 49 |
| 5 | Incorrect or incoherent actions of EP from RI | 2 |
| 6 | Missed train | 0 |
| 7 | Accepted train on a busy track | 0 |
| 8 | Dispatched train without approval | 1 |
| 9 | Dispatched train in a busy interstation | 0 |
| 10 | Uninsured train with brake mass | 0 |
| 11 | No dropped manual barriers for trains | 0 |
| 12 | Movement on unprepared route | 0 |
| 13 | Damage to RS on RI, leading to derailment | 0 |
| 14 | Self-movement of RS | 1 |
| 15 | Abandoned RS outside the remote indicators | 0 |
| 16 | Interruption of movement | 81 |
| **Total :** | | **306** |

**Chart of the railway events on the railway network in 2018**

**Railway events with caused damage**

In 2013 compared to 2012, the damage / BGN deviation is +206 902 lv. (+105 787 EUR)

In 2014 compared to 2013, the damage / BGN deviation is +5 402 000 lv. (+2 762 000 EUR)

In 2015 compared to 2014, the damage / BGN deviation is -4 842 076 lv. (-2 472 591 EUR)

In 2016 compared to 2015, the damage / BGN deviation is + 863 286 lv. (+ 440 452 EUR)

In 2017 compared to 2016, the damage / BGN deviation is -136 200 lv. (-69 597 EUR)

In 2018 compared to 2017, the damage / BGN deviation is +1 641 141 лв. (+ 839 115 EUR)

**Chart of the railway events and caused damage on the railway network in the period 2008 ÷ 2018**



# INVESTIGATIONS

# Summary of the completed investigations

In 2018, SUIRAI investigated two rail accidents.

**Table 2: Investigated accidents and incidents in** 2018

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of the investigated accidents and incidents** | **Number of accidents** | **Number of victims** | | **Damages** | |
| **Deaths** | **Serious injuries** | **BGN** | **EURO** |
| Fire in RS | 2 | - | - | 702 377 | 3 090 |
| **TOTAL:** | **2** | - | - | **4 087 234** | **2 085 323** |

# Investigations, initiated and completed in **2018**

**Table 3: Investigations, completed in** 2018

|  |  |  |  |
| --- | --- | --- | --- |
| **Date of the event** | **Card of the investigation** | **Legal basis** | **Completed on:** |
| March 30, 2018 | Railway accident – fire in fast train № 8613, occurred in 3rd  coach during its stay at Konyovo station on March 30, 2018. | Directive 2004/49/ЕC, Art. 19, par. 2/a, Art. 115i, par. 2 of RTA, Art. 76 of Ordinance № 59 | December 21, 2018 |
| May 04,  2018 | Railway accident – fire in el. Loc. № 44121, occurred when moving between stations Druzhba – Dolno Ezerovo on May 04,2018. | Directive 2004/49/ЕC, Art. 19, par. 2/a, Art. 115i, par. 2 of RTA, Art. 76 of Ordinance № 59 | January 30, 2019 |

# Fire in fast train № 8613, served by el. loc. № 43309 occurred in 3rd coach during its stay at Konyovo station on March 30, 2018**.**

*Short description*

On March 30, 2018, a fast train (FT) № 8613 composed by 4 coaches, 16 axles, 164 tons, serviced by electric locomotive № 43309.4, has departed Sofia station for Burgas station. The route of train movement is Sofia - Plovdiv - Dimitrovgrad - Stara Zagora - Burgas. At Plovdiv Station the locomotive and transport brigades are shifted according to the schedule. During the travel, the train has changed the direction of traffic at Dimitrovgrad station. Duty staff at the stations along the route hasn‘t noticed anything unusual. The same is confirmed by the locomotive and transport brigades, who have served the train from Sofia station until it arrives at Konyovo station.

When the train arrives in 19:59h at the station, the duty head of traffic sees smoke coming between third and fourth coaches. Shortly thereafter, a fire occurs in third coach and quickly graws and covers the entire coach. As a result of available airflows in southwest direction, the fire is rapidly transported and ignites the fourth coach. Both coaches of the train are completely burnt.

|  |  |  |  |
| --- | --- | --- | --- |
| |  |  | | --- | --- | | C:\Users\BSkrobanski\Desktop\Пожар БВ 8613, 30.03.2018 г\Снимки 8613\IMG_20180331_091927.jpg | *Consequences*  There are no passengers or staff injured as a result of the train fire. There is material damage to the rolling stock (two passenger wagons) and to the railway infrastructure (rail and contact network).  The movement of trains on the 2nd track at the Konyovo station is interrupted. The total value of the damages is 702 377 BGN. | |  |

*Reasons*

The cause of fire in 3rd coach is a short circuit with an arc between the plus conductor feeding the Inverter that is in contact with its housing and at that moment is in contact with the minus supply wire. The plus and minus conductors for powering the 24 V inverter are mechanically abraded by the disconnection of the inverter from the mounting screws to the wall of the electrical panel and its slack on the cables, which has led to a thermal load over the insulation. The reduced dielectric strength and leakage, on one hand between the minus conductor and the inverter housing, and on the other hand between the plus conductor and the inverter housing, has developed to a short circuit causing the fire.

.

*Status of the investigation*

The investigation was completed with a final report and eight recommendations on December 21, 2018.

# Fire in el. loc. № 44121, serving № 8613, occurred when moving between stations Druzhba – Dolno Ezerovo, on May 04,2018.

*Short description*

On May 04,2018 at 14:30 h from Sofia to Burgas station leaves fast train № 8613, consisting of 5 wagons, 20 axes, 208 tons, serviced by electric locomotive № 44121.2. The route for the train is Sofia - Plovdiv - Dimitrovgrad - Stara Zagora - Burgas. A change of the locomotive and transport brigades takes place at Plovdiv station. During the journey the train changes the direction of traffic in Dimitrovgrad station. The station staff along the route have not noticed anything unusual. The same is confirmed by the locomotive and transport brigandes, which have served the train from Sofia station till Druzhba station. During the course in section Druzhba - Dolno Ezerovo, the locomotive brigade senses a smell of burned cable insulation. The motorman looks into the engine room and sees it is filled with dense black smoke and shuts off the Main Air Circuit Breaker (MACB) of the locomotive. Looking through the side windows, the locomotive brigade sees that fire comes out of both sides of the locomotive, from cooling air intakes (CAI). Upon entering the train on the third track at Dolno Ezerovo Station, the motorman alerts with signal "General Anxiety" and stops at 21:37h. DHT at Dolno Ezerovo Station notifies the train dispatcher and 112 for sending fire safety teams.



At 00:50h the fire in the locomotive is localized and suppressed and after permission of MoI authorities, actions are taken to remove the locomotive speedometer and logbook and to carry out the first inspections.

*Consequences*

As a result of the fire in the locomotive, no passengers and personnel were injured. There is material damage to the rolling stock (electric locomotive No 44121). The movement of trains on the 3rd track at the Dolno Ezerovo station is interrupted. The total value of the damages is 397 944 BGN.

*Reasons*

The reason for fire in electric locomotive № 44121.2 is a locomotive long-term operation at a low voltage regime due to a transient short circuit between the insulated conductors and the locomotive body and the registered low voltage in the contact network.

*Status of the investigation*

The investigation was completed with a final report and three recommendations on January 30, 2019.

# Investigations, started in 2018 and continued in 2019**.**

**Table 4: Investigations, started in 2018 and continued in 2019**.

|  |  |  |  |
| --- | --- | --- | --- |
| **Date of the event** | **Card of the investigation** | **Legal basis** | **Stage** |
| May 04, 2018 | Occurrence of fire in electrical locomotive № 44121 between stations Druzhba – Dolno Ezerovo, serving fast train № 8613 in Sofia – Burgas direction . | Directive 2004/49/ЕC, Art. 19, par. 2/a, Art. 115k, par. 1, p.2 of RTA, Art. 76 of Ordinance № 59 | The investigation finished on January 30,2019. |

# Investigated accidents and incidents.

**Table 5: Investigated accidents and incidents in the period** 2012÷2018.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Investigated events** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **Total** |
| Collision | - | **-** | **-** | 1 | **-** | **-** | **-** | **1** |
| Collision with an obstacle | - | **-** | **-** | - | **-** | **-** | **-** | **0** |
| Derailment of a train | - | 1 | 2 | 1 | 4 | 5 | **-** | **13** |
| Accident on crossing | - | - | 2 | **-** | - | **-** | **-** | **2** |
| Accident with a person, caused by RS on the move | - | **-** | **-** | **-** | - | **-** | **-** | **0** |
| Fire in rolling stock | 1 | 2 | 2 | 1 | 4 | 1 | 2 | **13** |
| Accident, connected with dangerous cargo | - | **-** | - | **-** | 1 | **-** | **-** | **1** |
| Incidents | - | **-** | - | **-** | - | **-** | **-** | **0** |
| **Total:** | **1** | **3** | **6** | **3** | **9** | **6** | **2** | **30** |

**Diagram of the investigated accidents and incidents in the period 2012÷2018**

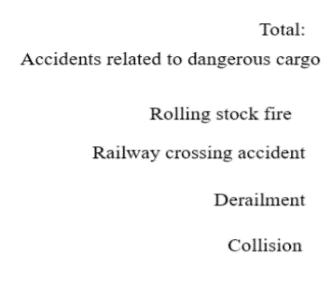


Fig. 1

# SAFETY RECOMMENDATIONS

The safety recommendations given by SUIRAI are intended to improve safety and prevent other accidents for the same reasons. The recommendations are addressed to the National Safety Authority (EARA), the Railway Infrastructure Manager (RINC), railway enterprises and other entities involved in the repair and maintenance of the rolling stock to take measures and actions to ensure the safety of the railway transport.

# Brief scope and presentation of the recommendations of SUIRAI

#### Table 6: Transmitted and introduced recommendations within the period 2012÷2018

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Given recommendations** | **Status of implementation of the recommendations** | | |
| **Implemented** | **In the process of being implemented** | **Accepted and not implemented** |
| 2012 | 7 | 2 | 1 | 4 |
| 2013 | 16 | 8 | 6 | 2 |
| 2014 | 16 | 7 | 4 | 5 |
| 2015 | 10 | 8 | 2 | 0 |
| 2016 | 27 | 19 | 5 | 3 |
| 2017 | 28 | 17 | 5 | 6 |
| 2018 | 11 | 11 | **0** | **0** |
| **Total:** | **115** | **72** | **23** | **20** |

**A diagram of the** **transmitted and introduced recommendations within 2012 ÷ 2018**

Given

Implementing

Accepted

Implemented

TOTAL

# Safety recommendations**, transmitted in 2018**

|  |
| --- |
| **2018** |
| * + 1. **Fire in fast train № 8613, served by el. loc. № 43309 occurred in 3rd  coach during its stay at Konyovo station on March 30, 2018.**   Safety recommendations: (December 21, 2018 )  Recommendation № 1 proposes to train trainmasters and conductors to operate Inverters mounted in coaches.  Recommendation № 2 proposes to change the location and the way of installation of the Inverter in a horizontal surface for operation in operating conditions.  Recommendation № 3 proposes to remodel the inverter power scheme in automatic mode with separate automatic 80A fuses.  Recommendation № 4 proposes the power cables of the 24 V wiring to be protected in a corrugated casing.  Recommendation № 5 proposes to provide guidance close to 220 V contacts in coach compartments to illustrate their purpose.  Recommendation № 6 proposes to supplement the Inverter Maintenance System, which is linked to SSM’s Plan - Warning System for repair.  Recommendation № 7 offers to the personnel carrying out Inverter maintenance in coaches, to follow the relevant procedures provided by SSM.  Recommendation № 8 proposes to develop an Instruction for Operation and Maintenance of Inverters in coaches with built-in 220 V wiring.  .  *Undertaken measures*  The recommendations are implemented. |
| * + 1. **Fire in el. Loc. № 44121, serving fast train № 8613, occurred when moving between stations Druzhba – Dolno Ezerovo on May 04,2018.**   *Safety recommendations:* (January 30,2019)  Recommendation № 1 proposes a technical documentation to be prepared for to  align ATS-related reconstructions in the electric locomotives series 44 and 45 and the adjacent elements;  Recommendation № 2 proposes a controlled access to be provided to MACB  compulsion power-off devices;  Recommendation № 3 suggests that during the execution of TI the control of the fire detection system (FDS) of the electric locomotives series 44 and 45 to be increased.  *Undertaken measures*  The recommendations are implemented. |

For the purpose of observing article 94, paragraph 4 of Ordinance No. 59 dated December 05, 2006, the addressees of the recommendations are obliged to inform the head of SUIRAI about the implementation of the given recommendations once a year.

**Dr. Eng. Boycho Skrobanski**

*Head of SUIRAI at МТIТС*

*I, the undersigned Kristina Hristova Doychinova in my capacity of official translator, hereby certify that the above document, consisting of 17 (seventeen) pages is a true and complete translation into English of the attached official document, originally composed in Bulgarian. In testimony thereof I have hereunto set my hand and affixed the official seal of the company.*

*Translator:*

*Kristina Hristova Doychinova*