



**REPUBLIC OF SERBIA**  
**CENTER FOR INVESTIGATION OF ACCIDENTS IN TRANSPORT**  
**SECTOR FOR INVESTIGATION OF ACCIDENTS IN RAILWAY TRAFFIC**  
**Nemanjina 11, 11000 Belgrade**

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**No.: 340-00-7/2023-02-34**

**Date: 27.09.2023.**

# **ANNUAL REPORT FOR 2022**

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Center for Investigation of Accidents in Transport (hereinafter referred to as: CINS) is independent in its work and conducts independent accident investigations. The aim of an investigation is to identify the causes and the possibility of improving safety on the railways and to prevent accidents by issuing safety recommendations.

In accordance with the Article 33 of the Law on Investigation of Air, Railway and Waterborne Traffic Accidents (“Official Gazette of RS” No. 66/15 and 83/18) and the Article 23 of the Directive 2004/49/EC of the European Parliament and of the Council of EU (Railway Safety Directive), CINS drafted and published the Annual Report.

Annual report for 2022 consists of:

- Information on CINS
- Investigative procedure in the field of railway transport
- Investigations opened in 2022
- Investigations closed in 2022
- Issued safety recommendations
- Measures taken on the basis of the issued safety recommendations



## Glossary:

RS	.....	Republic of Serbia
CINS	.....	Center for Investigation of Accidents in Transport
MGSI	.....	Ministry of Construction, Transport and Infrastructure
IŽS	.....	Serbian Railways Infrastructure
a.d.	.....	Joint-stock company
d.o.o.	.....	Ltd.
US	.....	Constitutional Court
JŽ	.....	Yugoslav Railways
ZJŽ	.....	Community of Yugoslav Railways
EMV	.....	Electro motor train
DMK	.....	Diesel motor wagon
JP	.....	Public Enterprise
EPS	.....	Electrical Power Industry of Serbia
TENT	.....	Thermo Power Plant “Nikola Tesla”
EU	.....	European Union
MUP	.....	Ministry of Interior
NIS	.....	Petroleum Industry of Serbia
PU	.....	Police Administration
SS	.....	Safety - signalling
SRS	.....	Socialist Republic of Serbia
SP	.....	Traffic Affairs
RID	.....	The Regulation concerning the International Carriage of Dangerous Goods by Rail



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## 1. CINS

### 1.1. Legal framework

The implementation of Directive 2004/49/EC of the European Parliament and the Council in the legislation of the RS was carried out by the adoption of the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), the Law on Railway System Interoperability (“Official Gazette of RS” No. 41/18 and 16/2022 - Authentic interpretation) and on the date of entry into force of the Law on Safety in Railway Traffic (“Official Gazette of RS” No. 41/18), that is, on June 8<sup>th</sup>, 2018 the Law on Railway Safety and Interoperability (“Official Gazette of RS” No. 104/13, 66/15 - other law, 92/15 and 113/17 - other law) ceases to be valid, except for the provision of Article 78, paragraph 1 point 5) subpoint (1), which ceases to, be valid after three years from the date of entry into force of this Law, i.e. on June 8<sup>th</sup>, 2021.

CINS, which includes the Sector for Investigation of Accidents in Railway Traffic, is a special organization that carries out the investigation following the serious accidents on the railway system. In addition to serious accidents, CINS can investigate other accidents and incidents, which could lead to serious accidents, including technical failure of structural subsystems or interoperability factors in accordance with the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18). CINS has the discretion to decide whether to open an investigation into other accidents and incidents.

According to the Law on Safety in Railway Traffic (“Official Gazette of RS” No. 41/18), the manager and the railway undertaking must, independently of CINS, carry out tasks on investigating the causes and consequences of accidents and incidents in railway traffic, as well as the circumstances in which they have occurred.

According to the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), CINS, Sector for Investigation of Accidents in Railway Traffic, conducts investigation independently from all parties and organizations competent for railway traffic. CINS conducts investigation following the serious accidents on the railway system with the aim of possible improvement of safety on the railway and prevention of accident.

Professional work related to investigation is independent of criminal investigations or other parallel investigations that determine responsibility or the degree of guilt.

The investigation and determining the causes of accidents does not aim to establish criminal, economic, misdemeanour, disciplinary, civil or other liability.



## 1.2. Role and purpose

According to the Law on the Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of the RS” No. 66/15 and 83/18), CINS was established, as of July 2015, as a special organization whose competence is the performance of professional work related to the investigation of accidents and serious accidents in air traffic, serious accidents, other accidents and incidents in railway traffic, very serious maritime accidents, serious maritime accidents, maritime accidents, maritime incidents, serious inland navigation incidents and inland navigation incidents in waterborne traffic. CINS has the status of a legal entity, and the headquarters of CINS is in Belgrade.

Sector for Investigation of Accidents in Railway Traffic carries out tasks that are within the competence of CINS, regarding railway traffic with the aim of possible improvement of safety on the railway by issuing safety recommendations.

According to Article 35 of the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), CINS issues safety recommendations based on data analysis and the results of the conducted investigation. Recommendations are sent to the Directorate for Railways, and in case it is necessary to other authorities and organizations in the RS, as well as to interested authorities and organizations of other countries and international organizations. The Directorate for Railways takes measures to take safety recommendations into account and to act on them. The Directorate for Railways and other authorities and organizations, except for the authorities and organizations of other countries and international organizations, are obliged to take the necessary measures in order to ensure that the safety recommendations of CINS are taken into account in an appropriate manner and, depending on the case, act on them. The Directorate for Railways and other authorities and organizations, except for the authorities and organizations of other countries and international organizations, are obliged to submit at least once a year a report to CINS on the measures taken or planned to be taken based on the safety recommendations issued in the previous year, and no later than July 31<sup>st</sup> of the current year.

Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), does not apply to underground railways (metros), trams and other types of light railway.

Basic tasks of CINS, Sector for Investigation of Accidents in Railway Traffic, are:

- Investigation of serious accidents, other accidents and incidents occurring on the railways system
- Preparation of final reports on conducted specific investigations that may contain safety recommendations aiming to improve safety of railway traffic.

CINS performs other tasks stipulated by the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18).

### 1.3. Organization of CINS

Within CINS, the following basic internal units are established: Sector for Investigation of Accidents in Air Traffic, Sector for Investigation of Accidents in Railway Traffic and Sector for Investigation of Accidents in Waterborne Traffic. Within CINS, a specific internal unit outside the Sectors, General Affairs Department, has been established.

CINS's structure has been presented in Figure 1.3.1.

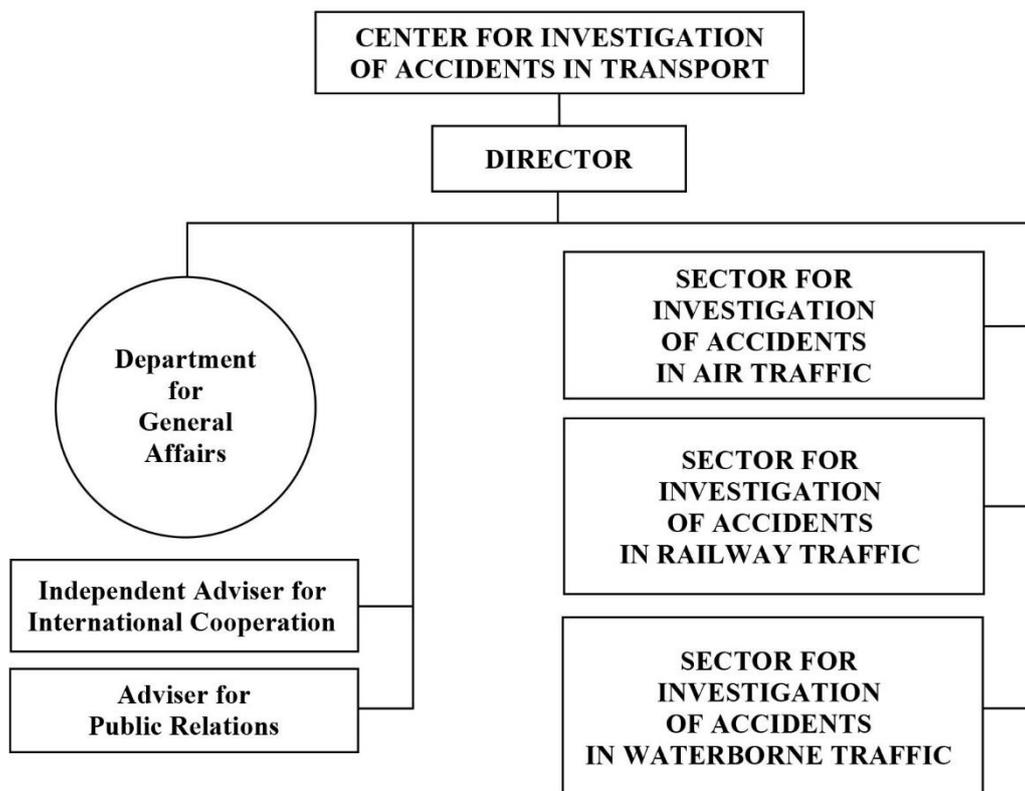


Figure 1.3.1: CINS's structure

Sector for Investigations of Accidents in Railway Traffic has become operational since 26.06.2017. With the new Rulebook on internal organization and systematization of workplaces No. 110-00-1/2022-04 of 16.05.2022, which came into force on 14.06.2022. within the Sector for Investigation of Accidents in Railway Traffic the following five work positions have been systematized: Head of the Sector for Investigation of Accidents in Railway Traffic - Main Investigator for Railway Traffic, Senior Adviser for Coordination of Investigation and Railway Accidents Analysis, Senior Adviser for Coordination of Investigation and Railway Accidents Analysis, Independent Adviser for Investigation and Railway Accidents Analysis and Independent Adviser for Investigation and Railway Accidents Analysis.



Sector for Investigation of Accidents in Railway Traffic in 2022 employed:

1. Head of the Sector for Investigation of Accidents in Railway Traffic - Main Investigator in Railway Traffic,
2. Senior Adviser for Coordination of Investigation and Railway Accidents Analysis and
3. Senior Adviser for Coordination of Investigation and Railway Accidents Analysis.

CINS, Sector for Investigations of Accidents in Railway Traffic, is independent in its work and independent of all other bodies and organisations competent for railway traffic (MGSI, the Directorate for Railways), as well as of all legal and natural persons whose interests may be in conflict with the tasks and entitlements of CINS.

#### **1.4. Organisations competent for the railway system**

Organisations competent for the railway system in RS are MGSI, the Directorate for Railways and CINS.

MGSI carries out state administration affairs related to the regulation and ensuring of the transport system. MGSI is in charge of drafting laws passed by a legislative body. The legislative body in the RS is the National Assembly. MGSI sets the legal framework by developing the railway regulations and implementing of EU legislation. MGSI also carries out supervision of internal and international transport and also intermodal transport, regulation and safety of the technical and technological traffic system.

The Directorate for Railways carries out administration affairs in the field of railway determined by the Law on Railway (“Official Gazette of RS” No. 41/18), Law on Railway Traffic Safety (“Official Gazette of RS” No. 41/18) and the Law on Interoperability of the Railway System (“Official Gazette of RS” No. 41/18 and 16/2022 - Authentic interpretation). The Directorate for Railways carries out tasks of regulating the railway services market and activities in the field of regulation of safety and interoperability of railway traffic. The Directorate for Railways is competent to issue, suspend and withdraw the license for railway infrastructure management and the license for traffic, enact bylaws, participate in international cooperation in the field of railway traffic which is realized by MGSI.

CINS is a special organisation which performs state administration affairs in the field of investigation of accidents and incidents in accordance with the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18). CINS is responsible for performing professional activities related to investigation of accidents and serious incidents in air traffic; serious accidents, other accidents and incidents in railway traffic; very serious maritime accidents, serious maritime accidents, maritime accidents, maritime incidents, serious inland navigation incidents and inland navigation incidents in waterborne traffic.



## 2. INVESTIGATIVE PROCEDURE IN THE FIELD OF RAILWAY TRAFFIC

### 2.1. Accidents and incidents being investigated

According to the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), CINS conducts investigation after serious accidents on the railway system with a view of possible improvement of railway safety and the prevention of new accidents caused by the same or similar causes.

In addition to serious accidents, CINS may also investigate other accidents and incidents that could lead to serious accidents, including the technical failure of structural subsystems or interoperability constituents.

CINS has discretion to decide whether to open investigation of other accidents and incidents. The scope of investigations and the procedure of conduction of these investigations is determined by CINS.

According to the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), accidents and incidents may be:

1. Serious accident in railway traffic is a collision or derailment of the train which results in the death of at least one person or serious injury to five or more persons or causing great material damage to the railway vehicles, railway infrastructure, or the environment, as well as other similar accident which has an obvious impact on railway safety or the safety management.
2. Accident in railway traffic is undesirable or unintended sudden event or a specific sequence of such events, which has detrimental effects (collisions, derailments, an overtaking of the train, level crossing accidents, accidents with the participation of individuals caused by railway vehicles in motion, fires, etc.).
3. Incident in the railway traffic is an event that is associated with the railway transportation or shunting composition and adversely affects the safety of the traffic.

*Great damage* in rail transport is the damage that CINS, upon accessing the accident site, assesses in the amount of at least two million euro.

*Investigation* refers to a process which includes the data collection and analysis, making conclusions, including the determination of causes and depending on the case, issuing safety recommendations with the aim of prevention of serious accidents in railway traffic.

*Fatal injury* is injury caused to a person in a serious accident in the railway traffic, resulting in the death of that person within 30 days from the injuries inflicted during serious accident in railway traffic.

*Seriously injured person* is any injured person who is hospitalized for more than 24 hours due to the consequences of an accident, excluding attempted suicides.



## 2.2. Organisations involved in investigative process

Investigation of serious accidents, other accidents and incidents on the railway system can be performed by different organizations and business entities in accordance with their legal obligations, as follows:

- Infrastructure Manager and Railway Undertakings, pursuant to the Law on Safety in the Railway Traffic (“Official Gazette of RS” No. 41/18) and with their safety management systems (SMS) deal with determining the causes and taking measures based on the results of investigation.

- CINS investigates serious accidents, other accidents and incidents with the aim of determining the causes and issuing safety recommendations in order to improve safety of the railway system.

- The Public Prosecutor's Office and Police investigate an accident or incident in order to determine liability for committed infringement or criminal offense.

## 2.3. The approach of CINS to an investigation

CINS, that is, the Sector for Investigation of Accidents in Railway Traffic carries out an investigation to determine the causes in order to issue safety recommendations in terms of preventive actions aiming to reduce the number of accidents and incidents and improve safety of the railway system. Investigations carried out by the CINS do not seek to determine liability.

CINS is on standby 24 hours, 7 days a week.

For the purpose of the investigation of any accident or incident Director of CINS forms by the Decision a Working Group led by the Main Investigator in Railway Traffic and for the members of the working group other employees of CINS i.e. the Sector for Investigation of Accidents in Railway Traffic are appointed, which participate in the affairs of the investigation of accidents and incidents, as well as other professionals outside CINS, in accordance with the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18).

Upon receiving notification of an accident or an incident on the railway system, CINS decides whether to go on the site of the accident or incident or not. At the site of the occurrence of the accident or incident, CINS will conduct an investigation and check the collected facts and procedures, undertaken by the Infrastructure Manager and Railway Undertaking (if in the investigation of the accident or incident one of them or both are involved).

The decision to launch an investigation can be made immediately after the reception of notification of accident or incident occurred or after all relevant facts necessary for making the decision to initiate the investigation of an accident or incident are collected.

After an investigation has been initiated, not later than seven days from the date of decision, CINS, Sector for Investigation of Accidents in Railway Traffic shall inform the MGSI and The European Union Agency for Railways (ERA) on initiated investigation, in accordance with the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18).

Upon completion of the investigation, CINS publishes the Final Report and safety recommendation on its website [www.cins.gov.rs](http://www.cins.gov.rs). Also, the reports of the Center, i.e. the Sector for Investigation of Accidents in Railway Traffic, are published on the website of the European



Union Agency for Railways (ERA) [https://www.era.europa.eu/domains/accident-incident/rail-accident-investigation\\_en](https://www.era.europa.eu/domains/accident-incident/rail-accident-investigation_en). The form of the report is in accordance with the Rulebook on the content of the final report on investigations of accidents and incidents in railway traffic (“Official Gazette of RS” No. 89/15).

### 3. INVESTIGATION OPENED IN 2022

The Sector for Investigation of Accidents in Railway Traffic became operational on 26.06.2017. In 2022, one investigation was initiated.

Basic data on the investigations initiated by the Sector for Investigation of Accidents in Railway Traffic in Railway Traffic in 2022 are shown in Table 3.1.

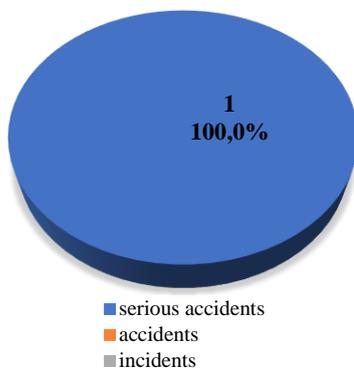
**Table 3.1:** Review of investigation initiated in 2022

ACCIDENT OR INCIDENT TYPE	No.	[%]
Serious accident	1	100.0
Accident	0	0.0
Incident	0	0.0
<b>TOTAL:</b>	<b>1</b>	<b>100.0</b>

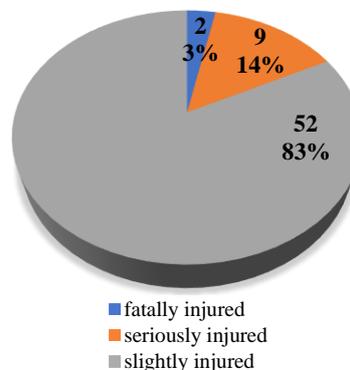
Basic data on fatally injured and injured people for investigations which Sector for Investigation of Accidents in Railway Traffic has initiated in 2022 are shown in Table 3.2.

**Table 3.2:** Review of fatally injured and injured people for investigations initiated in 2022

	Passengers	Railway staff	Third parties	Total
Fatally injured	-	-	2	2
Seriously injured	-	-	9	9
Slightly injured	-	-	52	52



**Figure 3.1:** Investigations initiated in 2022



**Figure 3.2:** Fatally injured and injured in 2022



### 3.1. Train No. 45010 derailment

On 25.12.2022. at 16:45, at km 67+244 of the main arterial line No. 106: Niš - Dimitrovgrad - state border - (Dragoman), between the crossing point Staničenje and the station Pirot, there occurred a derailment of the train No. 45010 (railway undertaking "Srbija Kargo" a.d.) A total of six wagons of the series Z loaded with ammonia (RID 268/1005, OM 4869) have derailed from the train composition.

Viewed from the locomotive 661-249, the following have derailed: 9th wagon of the series Zags No. 33 87 7813 563-6 with the right wheels of both axles of the second bogie (remained on its wheels in the track zone), 10th wagon of the series Zags No. 33 87 7813 580-0 with all the axles (turned on its side to the left, rotated with the rear end for approximately 15° to the left in relation to the longitudinal track axis, viewed in the direction of the train movement), 11th wagon of the series Zags No. 33 87 7813 586-7 with all the axles (turned on its side to the left, parallel to the track, viewed in the direction of the train movement), 12th wagon of the series Zagkks No. 33 80 7922 029-3 with all the axles (turned on its side to the left, rotated with the rear end for approximately 15° to the left in relation to the longitudinal track axis, viewed in the direction of the train movement), 13th wagon of the series Zags No. 33 80 7818 081-1 with all the axles (turned on its side to the left, rotated with the front end for approximately 15° to the left in relation to the longitudinal track axis, viewed in the direction of the train movement) and 14th wagon of the series Zags No. 33 80 7818 089-4 with the right wheels of both axles of the first bogie (remained on its wheels in the track zone).

After the derailment, train No. 45010 covered the distance another approximately 132 m, after which it stopped (the exact distance could not be determined due to damage to the track and railway vehicles).

From the overturned thirteenth wagon No. 33 80 7818 081-1, there occurred ammonia leakage.

The appearance of the serious accident site (the point of overturning of the wagons-tanks) is shown in Figures 3.1.1. and 3.1.2.



**Figure 3.1.1:** The appearance of the serious accident site (source: MUP, Sector for Emergency Situations)



**Figure 3.1.2:** Appearance of the point of overturning of the wagons-tanks  
(source: MUP, Sector for Emergency Situations)

Appearance of the derailed wagons is shown in Figures 3.1.3. and 3.1.4.



**Figure 3.1.3:** Appearance of the derailed wagons



**Figure 3.1.4:** Appearance of the derailed ninth (up) and fourteen wagon (down) (source: “IŽS” a.d.)



Due to the occurrence of an ammonia release (leakage) (classified under RID: gas, toxic, corrosive), upon the call, the following units responded to the scene: members of the MUP RS, the PU in Pirot, members of the MUP RS, Sector for Emergency Situations, Department for Emergency Situations in Pirot, and members of the Emergency Medical Service of the Pirot Health Center.

The consequences of this serious accident were remedied by engaging the expert services and resources of "IŽS" a.d, "Srbija Kargo" a.d, "National Company Railway Infrastructure" of the Republic of Bulgaria, auto-cranes from Bulgaria, Elixir Zorka Mineral Fertilizers d.o.o. Šabac, HIP-Azotara d.o.o. Pančevo, Patenting d.o.o. Belgrade, as well as construction and forestry services by "Pixi," with assistance from firefighters and rescue services.

In this accident, there were fatally and injured persons.

The material damage to the railway infrastructure, railway vehicles, goods and property of third parties was made.

Due to this serious accident, railway traffic between the Pirot station and the Staničenje crossing point was interrupted. The interruption lasted from 25.12.2022, at 16:45, until 14.01.2023, at 19:00, when the mentioned section of the railway track was reopened for train traffic. According to telegram No. 2 of 14.01.2023, from the Pirot station, the section between the Staničenje crossing point and the Pirot station was opened for train traffic with the introduction of restricted speed running with a speed limit of  $V_{max}=20$  km/h, from km 67+042 to km 67+890. Additionally, the maximum train weight was limited to 1200 t, and the transportation of ammonia wagons-tanks loaded with ammonia on the main arterial line No. 106: Niš - Dimitrovgrad - state border - (Dragoman) was prohibited, until the replacement and strengthening of the superstructure on certain sections of the track was completed.

**Category:** Serious accident

**Fatally injured and injured:** 2 fatally injured, 9 seriously injured and 52 slightly injured (all those fatally injured and injured are third parties who were exposed to the influence of ammonia released into the atmosphere)

**Material damage:** There exists material damage to the infrastructure, railway vehicles and goods



## **4. INVESTIGATION REPORTS CLOSED IN 2022**

### **4.1. Overtaking of the pulled shunting composition on the railway worker**

#### **4.1.1. Short description of the serious accident**

On 03.02.2021. at 08:29 on the main arterial line No. 103: (Belgrade Center) - Rakovica - Jajinci - Mala Krsna - Velika Plana, at the Mala Krsna station, while performing shunting work, on the second station track, there occurred an overtaking of the pulled shunting composition of the railway undertaking "Srbija Kargo" a.d. (locomotive 441-510 and 6 (six) loaded wagons of the Ea series (five wagons of the Eas-z series and one wagon of the Eanoss series)), on an auxiliary railway worker at the Mala Krsna station employed by the public railway infrastructure manager "IŽS" a.d

As part of the shunting work for the purpose of proper formation of the gross for the planned train that was on the third station track, the pulled shunting composition of the railway undertaking "Srbija Kargo" a.d. (locomotive 441-510 and 6 (six) loaded wagons of series Ea), started driving on the second station track from the office of the train dispatcher in the direction of switch block 2. The shunting composition consisted of a train driver, employed by the railway undertaking "Srbija Kargo" a.d. (he was located in the rear driver's cab "A", next to the gross, on the right side, seen in the direction of the shunting composition) and the shunter, employed by the manager of the public railway infrastructure "IŽS" a.d. (he was on the steps next to the driver's cab, on the train driver's side). According to the Business Order of the Mala Krsna Station, Part I, the role of shunting operator was performed by the external train dispatcher.

The railway worker, auxiliary worker at the Mala Krsna station, employed by the manager of the public railway infrastructure "IŽS" a.d, was moving on the second station track in the direction from the station facility to the switch block 2 of the Mala Krsna station, in the same direction and at the same time as the pulled shunting composition, with its back turned to the oncoming shunting composition. The auxiliary worker was moving in the stated direction due to the arrival at the switch block 2 of the Mala Krsna station, in order to perform cleaning and lubrication of the switches and the level crossing.

Under these conditions, there occurred an overtaking of the pulled shunting composition on the auxiliary worker. The overtaking occurred in such a way with the head of the locomotive 441-510 (locomotive dozer blade) hitting the auxiliary worker, who fell off the track from the impact, after which the entire shunting composition crossed over him. On that occasion, the auxiliary worker suffered severe bodily injuries, from which he died on the spot.

Since the staff on the shunting composition did not notice that there was an overtaking, the pulled shunting composition continued driving until it got off the second station track and stopped at the switch block 2, where it was planned as part of the shunting work. The occurrence of the serious accident in question was first noticed by the train driver and the shunter who were on the locomotive 444-023, which was shunting along the second track from the direction of the train dispatcher's office in the direction of the switch block 2, just behind the shunting composition involved in the serious accident.

The appearance of the serious accident site, after the overtaking of the shunting composition on the railway worker, is shown in Figure 4.1.1.1.



**Figure 4.1.1.1:** The appearance of the serious accident after the overtaking of the shunting composition on the railway worker (view from direction of the switch block 2 to the station facility)

The appearance of the place where the shunting composition stopped on the switch block 2 after the serious accident is shown in Figure 4.1.1.2.



**Figure 4.1.1.2:** The appearance of the place where the shunting composition stopped on the switch block 2 after serious accident (view from the direction of the station Mala Krsna to the open track in direction towards the stations Požarevac and Osipaonica)

In this serious accident, one person (railway worker) was fatally injured.

Due to this serious accident, there occurred an interruption of traffic in the area of the station Mala Krsna. The interruption of traffic lasted until 03.02.2021. at 13:00.



**Category:** Serious accident  
**Fatally injured and injured:** 1 fatally injured (railway worker)  
**Material damage:** N/A

#### 4.1.2. Serious accident causes determined by investigation

The direct and immediate cause of this serious accident is that the auxiliary worker, employed by the railway infrastructure manager “IŽS” a.d. was on the second track of Mala Krsna station at the time of the shunting composition arrival, which is contrary to Article 16, paragraph 1 under 1. and 18. of the Rulebook on special measures of protection at work in railway traffic (“Official Gazette of the SRS”, No. 19/85), thus creating a dangerous situation related to the occurrence of this serious accident.

Auxiliary worker employed by the railway infrastructure manager “IŽS” a.d. who headed to the switch block 2 of Mala Krsna station due to the cleaning of the counter rails at the level crossing (according to the statement of the Deputy Head of the Mala Krsna station), immediately before the shunting composition arrival, was moving along the second station track, within the track, in the direction from the station facility to the switch block 2, even though he has been familiar, from his employer “IŽS” a.d. with the dangers from the railway vehicles in motion.

The pulled shunting composition (locomotive 441-510 and 6 (six) wagons of the Ea series) was moving on the second station track towards the switch block 2 (in the same direction as the fatally injured auxiliary worker). At the head of the shunting composition there were not the train driver (he drove the locomotive from the driver cab “A” which was not at the head of the pulled shunting composition, but next to the wagon in the shunting composition) and the shunter (he was not at the head of the locomotive but was on the locomotive step by the train driver), so that the observation of the driving path of the shunting composition was difficult, which could have contributed that the shunting staff on the pulled shunting composition not see the person who was on the track in the driving path of the shunting composition.

The external train dispatcher, who performed the duty of shunting operator during the execution of shunting drive by the pulled shunting composition, was not in a position from which he would be able to observe the entire route of the shunting composition. The external train dispatcher (shunting operator) was in front of the station facility all the time.

The speed of the pulled shunting composition was higher than the maximum allowed in the area of Mala Krsna station, which could have contributed to the shunting staff not timely spotting the auxiliary worker moving within the second track in the driving path the shunting composition, i.e., to the auxiliary worker moving inside the second track not noticing on time the shunting composition moving on the same track.

When moving within the second track, the auxiliary worker did not wear the appropriate equipment for safety at work, i.e., a signal vest or a work pilot suit with fluorescent tape, which could have contributed to not being noticed by the train driver and the shunter on the pulled shunting composition.

Reduced visibility due to the presence of fog at the time of occurrence of this serious accident has affected all participants in the serious accident in question to perform their duties in difficult circumstances.



#### **4.1.3. Additional remarks on the shortcomings and flaws identified during the investigation, but not relevant to the conclusions on the causes**

N/A.

#### **4.1.4. Issued safety recommendations**

**To the Directorate for Railways SR\_01/22, SR\_02/22, SR\_03/22, SR\_04/22 and SR\_05/22 are issued:**

**SR\_01/22** “IŽS”a.d. to perform extraordinary training of station staff in terms of proper movement, in terms of danger from the railway vehicles in motion pursuant to Article 16, paragraph 1 under 1. and 18. of the Rulebook on special measures of protection at work in railway traffic (“Official Gazette of the SRS”, No. 19/85).

**SR\_02/22** “IŽS”a.d. to perform extraordinary training of station staff regarding the use of protective equipment pursuant to Article 35 of the Law on Safety and Health at Work (“Official Gazette of RS” No. 101/2005, 91/2015 and 113/2017 - other law), Business Order of the Mala Krsna Station Part I, case No. 15/2019-68 of 21.01.2019, Sector for SP, “IŽS”a.d. (Chapter E - Provisions regarding the organization of other activities in the station, 8.1. Cleaning and maintenance of switches) and the Risk Assessment Act for all workplaces in the work environment of “IŽS”a.d. No. 1/2016-4958 of 09.12.2016.

**SR\_03/22** “IŽS”a.d. to perform extraordinary training of the shunting unit (shunting operator and shunter) in terms of proper performance of shunting work, with special emphasis on the position of the shunter and shunting operator upon driving a shunting composition, pursuant to Articles 23, 116 and 117 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94).

**SR\_04/22** “IŽS”a.d. to perform extraordinary training of staff (shunting operators) regarding the issuance of orders for the formation of shunting drive routes, pursuant to Article 107 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94).

**SR\_05/22** “Srbija Kargo”a.d. to perform extraordinary training of traction vehicle staff regarding the possession of the driver's cab in accordance with item 3 Article 30, of the Traffic Instruction 40 (“Official Gazette of ZJŽ”, No. 6/80, 3/82, 6/83, 2/84, 4/88, 8/88, 9/90, 2/91, 2/94 and 2/01) and Article 121 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 и 2/94).



## **4.2. Overtaking of the pushed shunting composition on the railway worker**

### **4.2.1. Short description of the serious accident**

On 12.07.2021. at 07:43 in the area of the industrial railway JP “EPS” Branch TENT from Obrenovac, in the station Obrenovac, during the shunting work, on the second station track, there occurred an overtaking of the pushed shunting composition (locomotive 443-06 and 2 (two) wagons of type Arbel series Faboo), owned by JP “EPS” Branch TENT from Obrenovac, on a railway worker employed in “Pro Tent” d.o.o. from Obrenovac.

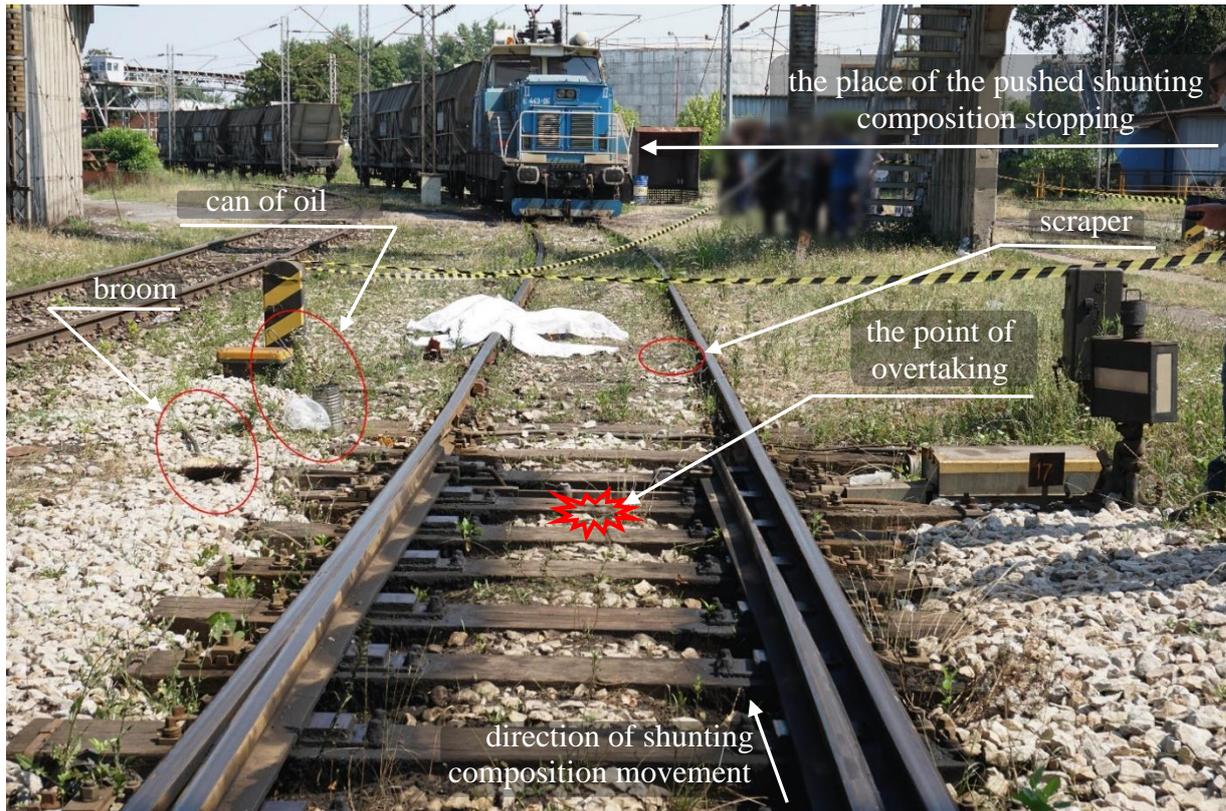
As part of the shunting work at the Obrenovac station, in order to transfer the Arbel type Faboo series wagons from the fourth turnout track to the second turnout track, the shunting composition (locomotive 443-06 and 2 (two) Arbel type wagons, Faboo series) started driving from the station part of the railway track moving along the second station track from the direction of the entrance switches in the direction of the second turnout track. Only the train driver, employed by the JP “EPS” Branch TENT from Obrenovac, was on the shunting composition (he was in the driver cab of the shunting locomotive 443-06).

Railway worker, employed in “Pro Tent” d.o.o. from Obrenovac, immediately before the occurrence of the serious accident, was in the area of the switch No.17 in the profile of the second station track, performing the work of cleaning the switches. While cleaning the switch No. 17, the railway worker turned his back on the oncoming pushed shunting composition.

Under these conditions, there occurred an overtaking of the pushed shunting composition on the railway worker. The overtaking occurred when the front of the shunting composition (middle of the front part of the Arbel type wagon, Faboo series individual No. 43 72 6531 314-2) hit a railway worker in the area of his back, who from the impact fell off the track, after which the entire shunting composition crossed over him. On that occasion, the railway worker suffered severe bodily injuries, from which he died on the spot.

Since the train driver on the pushed shunting train did not notice that there occurred a collision, the pushed shunting composition continued driving all the way to the second turnout track, near the place where it was planned as part of the shunting task. The train dispatcher for unloading - “OB1”, was the first to notice the occurrence of the serious accident in question, who was in his office in the facility located between the second and third track near the switch No. 17, i.e. near the place of occurrence of the serious accident in question.

The appearance of the place of the serious accident, after the overtaking of the pushed shunting composition on the railway worker, is shown in Figure 4.2.1.1.



**Figure 4.2.1.1:** The appearance of the place of the serious accident after the collision of the pushed shunting composition on the railway worker (view from the direction of the second track to the second turnout track)

Because of this serious accident, the team of the Emergency Medical Service of the Health Center “Obrenovac” was engaged.

Due to this serious accident, there was no interruption of traffic at the Obrenovac station.

**Category:** Serious accident

**Fatally injured and injured:** 1 fatally injured (railway worker)

**Material damage:** N/A

#### 4.2.2. The serious accident causes determined by investigation

The direct and immediate cause of the serious accident is that the railway worker, employed in “Pro Tent” d.o.o. from Obrenovac was located on the second track of Obrenovac station in the area of the switch No. 17, performing cleaning of switches at the time of the pushed shunting composition arrival, which is contrary to Article 12, paragraph 1 and Article 16, paragraph 1 under 1 of the Rulebook on special occupational safety measures in railway traffic (“Official Gazette of SRS”, No. 19/85), which created a dangerous situation related to the occurrence of this serious accident.

The pushed shunting composition (locomotive 443-06 and 2 (two) Arbel type wagons of Faboo series) was moving on a second station track towards the second turnout track. The pushed shunting composition was occupied only with the train driver while the shunting



operator and the shunter were not on the shunting composition nor next to the track near the shunting composition, so that the observation of driving route of the pushed shunting composition on the track in direction was done only by the train driver, which is in contradiction with the items 116 and 117 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94). Having in mind the position of the train driver in the driver cab of the locomotive 443-06 in the pushed shunting composition and the fact that the second track is in the direction, observation of the driving route of the pushed shunting composition done only by the train driver, influenced that the train driver does not spot the railway worker, who during the approach of the pushed shunting composition, was positioned in the middle of the second track at the switch No. 17. The fact that Arbel type wagons of the Faboo series do not constructively plan the installation of steps and handrails for an attendant to observe the shunting route from the front of the pushed shunting composition, could have contributed to the occurrence of the serious accident in question.

Railway worker employed by “Pro Tent” d.o.o. from Obrenovac was located in the area of the switch No. 17 in the profile (inside) of the second station track immediately before the occurrence of the serious accident, that is, immediately before the shunting composition arrival, performing the task of cleaning the switches, although he was acquainted, from the employer “Pro Tent” d.o.o. from Obrenovac, with the dangers of means of railway traffic. Also, before going on the track, i.e. before starting the tasks on cleaning the switch No. 17, he did not receive approval for the mentioned tasks from the train dispatcher of the Obrenovac station, which is contrary to Article 12, paragraph 1 of the Rulebook on special occupational safety measures in railway traffic (“Official Gazette of SRS”, No. 19/85).

In the Business Order of the Obrenovac station No. 32063/1 of 21.10.2010, Part I, Chapter B: Organization of work and manner of performing traffic, item 2 Duties of employees at workplaces, under 2.5: Duties of train dispatchers, not for one of the three work positions of train dispatchers in Obrenovac station, the obligation of performing the duties of a shunting operator is not precisely stated.

Also, in item 9: Manner of communication during the formation of shunting routes, Chapter B: Organization of work and manner of performing traffic, Part I of the Business Order of Obrenovac station No. 32063/1 of 21.10.2010. it is defined that the shunting routes on the main tracks of the Obrenovac station are formed by the train dispatcher by giving commands on the electronic signal box. The role of the shunting operator during shunting is performed by the train dispatcher and he informs the shunting staff about all planned shunting drives.

Based on the above, it can be stated that in the Business Order of the Obrenovac station No. 32063/1 of 21.10.2010, it is not precisely and clearly determined which of the three existing train dispatchers has the obligation to perform the duties of the shunting operator. In item 9, the same paragraph defines the obligation of the train dispatcher to form shunting routes on the electronic signal box and to perform the duties of the shunting operator, which points to the conclusion that the train dispatcher is in charge of performing the shunting operator's duties. Due to the nature of work of the train dispatcher (traffic regulation work, including the handling of electronic set) and his place of work, it is impossible to simultaneously perform the mentioned tasks in the office of the train dispatcher on traffic affairs and perform the duties of the shunting operator as part of shunting tasks.

Inaccuracy in defining which train dispatcher performs the duty of the shunting operator in the prescribed procedure in the Business Order of the Obrenovac station No. 32063/1 of 21.10.2010. could have influenced the fact that the shunting operator was not present during the shunting with the pushed shunting composition.



#### **4.2.3. Additional remarks on the shortcomings and flaws identified during the investigation, but not relevant to the conclusions on the causes**

While performing shunting drives of the pulled shunting composition through the fourth track and pushed shunting composition through the second track, the level crossing in the station area via the turnout tracks No. I, II, III and IV at km 0+041, which does not have devices to provide traffic at the level crossing, was not occupied by a worker who would provide traffic at the level crossing in question, in accordance with item 124 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94).

In the valid Business Order of the Obrenovac Station No. 32063/1 of 21.10.2010. part I, Chapter B: Organization of work and manner of performing traffic, item 15: Speed of driving, in paragraph 4, it is stated that the speed of shunting compositions over the switch area of the main tracks must not exceed 30 km/h, except in the case when there is a shunter on the front side step - then the speed must not exceed 20 km/h. From this expression, it is not clear whether this speed applies only to the switch area or also to the main tracks. If it refers only to the switch area, then the speed of the shunting in the Obrenovac station is not fully defined in the Business Order of the station. Also, in paragraph 8 (last paragraph) it is stated that the driving speed of pushed shunting compositions must not exceed 25 km/h, which is contrary to the statements in paragraph 4 According to the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94) on each pushed shunting composition during moving at a speed higher than 5 km/h, there must be a shunter at the head of the train, on the front side step, observing the driving route.

#### **4.2.4. Issued safety recommendations**

**To the Directorate for Railways SR\_06/22, SR\_07/22 and SR\_08/22 are issued:**

**SR\_06/22** JP “EPS” Branch TENT from Obrenovac, to perform extraordinary training of the shunting staff (train driver, shunting operator and the shunter) in terms of proper execution of the shunting tasks, with special reference to the conditions for safe start and movement of the shunting composition, the position of the shunter and the shunting operator when driving the shunting composition, in accordance with the items 23, 116 and 117 of the Shunting Instruction 42 (“Official Gazette ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94), that is, the Article 75 of the Traffic Rulebook (“Official Gazette RS” No. 34/22).

**SR\_07/22** JP “EPS” Branch TENT from Obrenovac, to amend the Business Order of Obrenovac station, and to precisely define which employees at which work positions are obliged to perform the duties of shunting operator (such as: train dispatcher for unloading - “OB2”, train dispatcher for unloading - “OB1”, separate shunting operator or the shunter who performs the duties of the shunting operator) with special reference to the scope of work and in accordance with the Shunting Instruction 42 (“Official Gazette ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94), that is, the Traffic Rulebook (“Official Gazette RS” No.34/22).



**SR\_08/22** JP “EPS” Branch TENT from Obrenovac, to consider the possibility of a constructive solution for the installation of steps and handrails on the front sides of the wagon type Arbel of series Faboo, for safe stay of train attendants during shunting drives or to apply other measures in order to perform shunting drives with attendants in accordance with the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94) that is, the Traffic Rulebook (“Official Gazette of RS” No. 34/22).

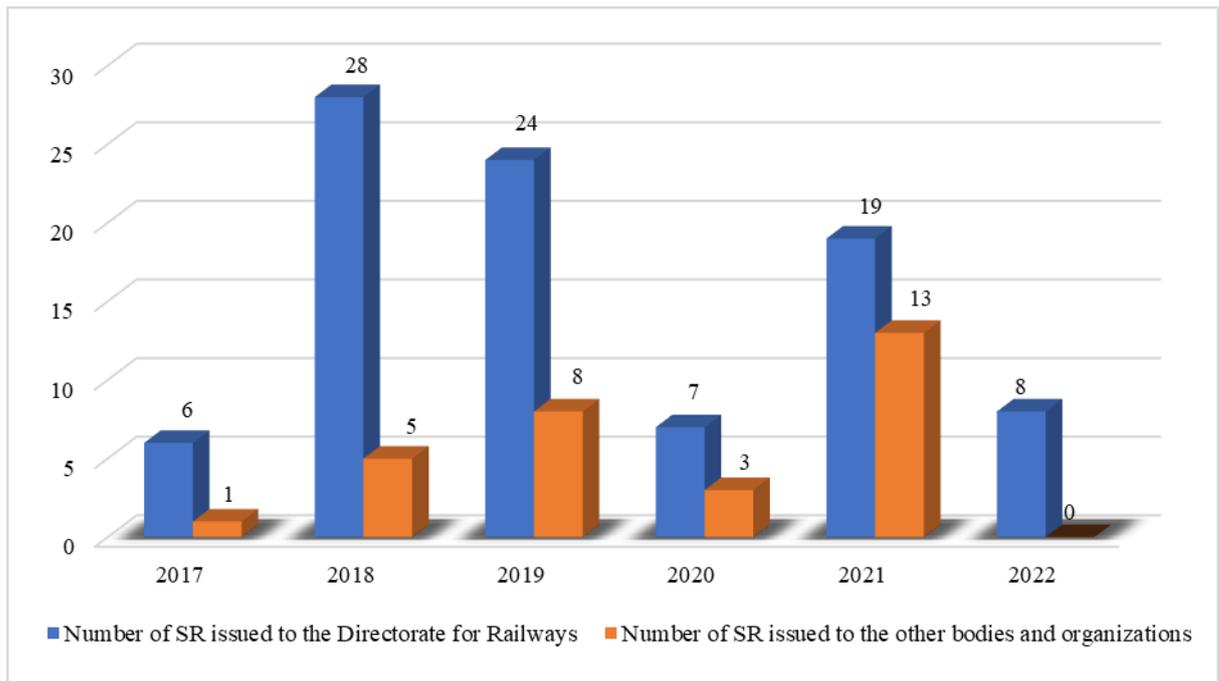
## 5. SAFETY RECOMMENDATIONS AND MEASURES TAKEN

With the aim to possibly improve railway safety and prevent the occurrence of new accidents, CINS, the Sector for Investigation of Accidents in Railway Traffic, issued 8 (eight) safety recommendations in 2022. In 2021, 32 (thirty-two) safety recommendations were issued, in 2020, 10 (ten) safety recommendations were issued, in 2019, 32 (thirty-two) safety recommendations were issued, in 2018, 33 (thirty-three) safety recommendations were issued and in 2017, 7 (seven) safety recommendations were issued. Out of a total of 122 (one hundred and twenty-two) safety recommendations issued by CINS in 2017, 2018, 2019, 2020, 2021 and 2022, 92 (ninety-two) safety recommendations (75.41%), were issued to the Directorate for Railways, and to the other bodies and organizations 30 (thirty) safety recommendations (24.59%) were issued.

The Table 5.1. shows issued safety recommendations per years.

**Table 5.1:** Issued safety recommendation

Year	Directorate for Railways		Other bodies and organizations		Total	
	[No.]	[%]	[No.]	[%]	[No.]	[%]
2017	6	85.71	1	14.29	<b>7</b>	<b>100.00</b>
2018	28	84.85	5	15.15	<b>33</b>	<b>100.00</b>
2019	24	75.00	8	25.00	<b>32</b>	<b>100.00</b>
2020	7	70.00	3	30.00	<b>10</b>	<b>100.00</b>
2021	19	59.38	13	40.62	<b>32</b>	<b>100.00</b>
2022	8	10.00	-	0.00	<b>8</b>	<b>100.00</b>
<b>Total</b>	<b>92</b>	<b>75.41</b>	<b>30</b>	<b>24.59</b>	<b>122</b>	<b>100.00</b>

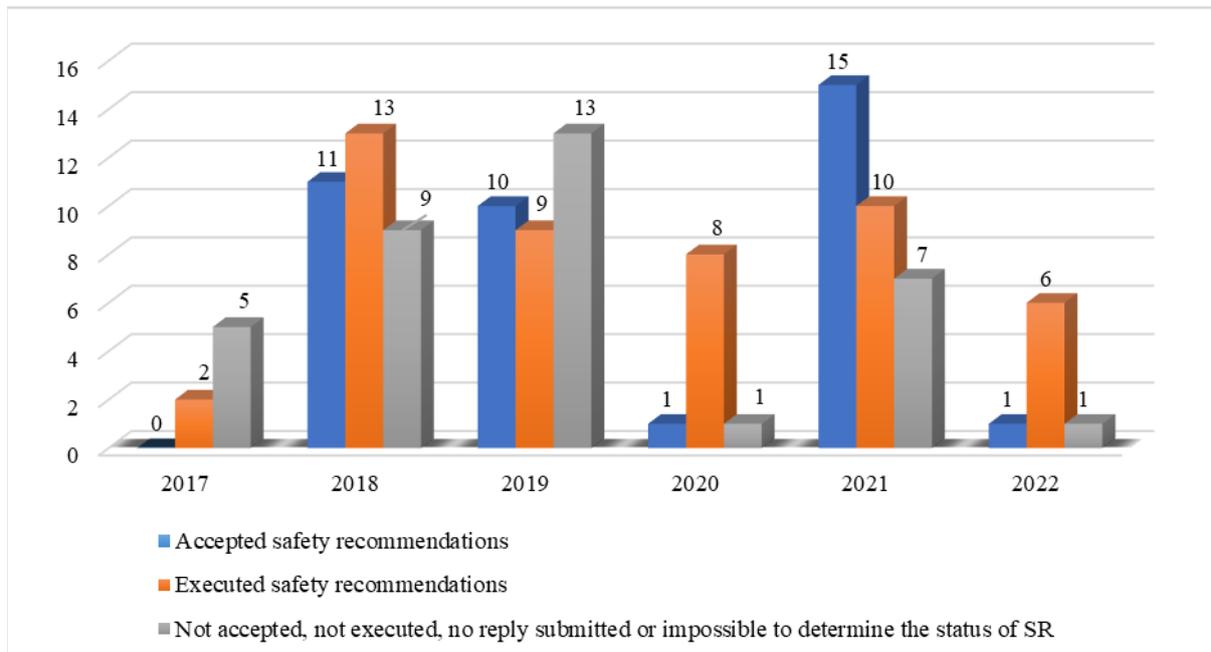


**Figure 5.1:** Graphic display of the number of issued safety recommendations

Table 5.2. shows the status of safety recommendations per years.

**Table 5.2:** Safety recommendations - status

Year	Accepted		Executed		Not accepted, no response has been submitted or it is not possible to determine the status from the submitted response		Total	
	[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
2017.	-	0.00	2	28.57	5	71.43	7	100.00
2018.	11	33.33	13	39.39	9	27.28	33	100.00
2019.	10	31.25	9	28.13	13	40.62	32	100.00
2020.	1	10.00	8	80.00	1	10.00	10	100.00
2021.	15	46.88	10	31.25	7	21.87	32	100.00
2022.	1	12.50	6	75.00	1	12.50	8	100.00
<b>Total</b>	<b>38</b>	<b>31.15</b>	<b>48</b>	<b>39.34</b>	<b>36</b>	<b>29.51</b>	<b>122</b>	<b>100.00</b>



**Figure 5.2:** Graphic representation of the status of issued safety recommendations

Table 5.3. shows the status of issued safety recommendations issued to the Directorate for Railways, per years.

**Table 5.3:** Issued safety recommendations to the Directorate for Railways - status

Year	Accepted		Executed		Not accepted, no response has been submitted or it is not possible to determine the status from the submitted response		Total	
	[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
2017	-	0.00	2	33.33	4	66.67	<b>6</b>	<b>100.00</b>
2018	10	35.71	12	42.86	6	21.43	<b>28</b>	<b>100.00</b>
2019	5	20.83	8	33.33	11	45.84	<b>24</b>	<b>100.00</b>
2020	-	0.00	7	100.00	-	0.00	<b>7</b>	<b>100.00</b>
2021	8	42.11	5	26.32	6	31.57	<b>19</b>	<b>100.00</b>
2022	1	12.50	6	75.00	1	1.25	<b>8</b>	<b>100.00</b>
<b>Total</b>	<b>24</b>	<b>26.09</b>	<b>40</b>	<b>43.48</b>	<b>28</b>	<b>30.43</b>	<b>92</b>	<b>100.00</b>

The Tables 5.4. and 5.5. show the status of safety recommendations issued to other bodies and organisations per years, and the Table 5.4. shows the status of safety recommendations issued to MGSI, while the Table 5.5. shows the status of issued safety recommendations to all other bodies and organisations.



**Table 5.4:** Safety recommendations issued to MGSI - status

Year	Accepted		Executed		Not accepted, no response has been submitted or it is not possible to determine the status from the submitted response		Total	
	[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
2017	-	0.00	-	0.00	1	100.00	<b>1</b>	<b>100.00</b>
2018	1	25.00	-	0.00	3	75.00	<b>4</b>	<b>100.00</b>
2019	5	83.33	1	16.67	-	0.00	<b>6</b>	<b>100.00</b>
2020	1	33.33	1	33.33	1	33.33	<b>3</b>	<b>100.00</b>
2021	7	58.33	5	41.67	-	0.00	<b>12</b>	<b>100.00</b>
2022	-	-	-	-	-	-	-	-
<b>Total</b>	<b>14</b>	<b>53.85</b>	<b>7</b>	<b>26.92</b>	<b>5</b>	<b>19.23</b>	<b>26</b>	<b>100.00</b>

**Table 5.5:** Safety recommendations issued to other bodies and organizations - status

Year	Accepted		Executed		Not accepted, no response has been submitted or it is not possible to determine the status from the submitted response		Total	
	[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
2017.	-	-	-	-	-	-	-	-
2018.	-	0.00	1	100.00	-	0.00	<b>1</b>	<b>100.00</b>
2019.	-	0.00	-	0.00	2	100.00	<b>2</b>	<b>100.00</b>
2020.	-	-	-	-	-	-	-	-
2021.	-	0.00	-	0.00	1	100.00	<b>1</b>	<b>100.00</b>
2022.	-	-	-	-	-	-	-	-
<b>Total</b>	-	<b>0.00</b>	<b>1</b>	<b>25.00</b>	<b>3</b>	<b>75.00</b>	<b>4</b>	<b>100.00</b>

In accordance with Article 35 of the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic ("Official Gazette of RS" No. 66/15 and 83/18), CINS issues safety recommendations based on data analysis and the results of the investigation. Recommendations are sent to the Directorate for Railways, and in the case when it is necessary, to other bodies and organizations in the Republic of Serbia, as well as to interested bodies and organizations of other countries and international organizations. The Directorate for Railways takes measures to take safety recommendations into account and to act upon them.



## 5.1. The status of safety recommendations from 2017

### 5.1.1. Investigation Report (ŽS-02/17) 33 No. 340-8059/2017-16 of 05.01.2018. (accident, derailment of the train No. 62946 from 16.08.2017. at 15:30 on the main arterial route: Belgrade Marshalling Yard “A” - Junction “B” – Junction “K” - Resnik, between Junction “B” and “K”)

**SR\_01/17** Directorate for Railways shall define, as soon as possible, in the existing Rulebook on technical conditions for the maintenance of the railway superstructure (“Official Gazette of RS” No. 39/2016 and 74/2016), limit conditions of the track superstructure and substructure elements that require immediate corrective actions or closing of the railway line until the unauthorized condition is eliminated.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. The new evidence has been submitted, as attached to the Letter I-01 No. 340-801/2023 of 21.07.2023.

The Directorate for Railways adopted the Rulebook on the maintenance of the railway lines super and sub structure No. 340-467/2023 of 03.05.2023 (“Official Gazette of the RS” No. 39/2023) in which the limit values of the parameters are specified, but it is still stated that reducing the speed is a way to reduce the risk of derailment, which CINS does not agree with because it was not acted in accordance with a clearly defined safety recommendation. Safety recommendation SR\_01/17 has been partially implemented.

**SR\_02/17** Directorate for Railways shall define in the existing Rulebook on technical conditions for the maintenance of the railway track superstructure (“Official Gazette of RS” No. 39/2016 and 74/2016), criteria for the periods in which the intermediate overhauling on the railway track superstructure shall be performed.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. In the attachment of the above Report, new evidence was submitted, i.e. Letter I-01 No. 340-801/2023 dated 21.07.2023. The Directorate for Railways adopted the Rulebook on the maintenance of the railway lines super and sub structure No. 340-467/2023 of 03.05.2023 (“Official Gazette of the RS” No. 39/2023), but the said Rulebook does not define the criteria for the periods in which intermediate repairs must be carried out on the superstructure, as clearly defined in this recommendation. Safety recommendation SR\_02/17 has not been implemented.

**SR\_05/17** “IŽS”a.d. shall, having in mind inadequate maintenance and condition of the tracks, sleepers and fastening devices, to assess the risk of train traffic on the main arterial route Belgrade Marshalling Yard “A” - Junction “B” - Junction “K” - Resnik, between junctions “B” and “K”.

**Status of the recommendation:** Directorate for Railways submitted a Report - Letter I-01 No. 340-800/2023 of 21.07.2023. Letter I-01 No. 340-827/2023 of 31.07.2023. safety recommendation SR\_05/17 has not been executed. No evidence was submitted that activities were carried out to implement the safety recommendation (there is no data that the train traffic risk assessment was initiated as clearly defined in the safety recommendation).



## 5.2. The status of safety recommendations from 2018

### 5.2.1. Investigation Report (ŽS-01/17) 33 No. 340-07684/2017-006 of 01.03.2018. (incident, decoupling of the train No. 8011 of 03.08.2017. at 07:55 on the main arterial route E 66: Belgrade Center – Pančevo Main station - Vršac – state border - (Stamora Moravita) in the area of the junction and stop Pančevački most)

**SR\_02/18** “Srbija Voz” a.d. should consider the possibility to make structural changes on the couplings between vehicles during regular repairs of EMV 412/416 in order to provide for a back-up alternative force transmission in case that the threaded connection is separated, or to apply other measures to reduce the risk of separation of the threaded joint.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_02/18 is executed. “Srbija Voz” a.d. in 2021 and 2022 sent a request for the delivery of an opinion by the overhauler “Šinvoz” d.o.o. Zrenjanin, but did not receive a response from the overhauler. New evidence has been submitted namely, Letter No. 655/2020 dated 13.02.2020, from the overhauler “Šinvoz” d.o.o. Zrenjanin. In this correspondence, detailed explanations were not provided, instead, it was stated that repairs were carried out on couplings between vehicles for seven EMV 412/416 units, and no issues were observed in operation.

**SR\_03/18** “Srbija Voz” a.d. should, in the submitted Instructions for the Repair of couplings between vehicles, which was produced within the Project of the technical and overhaul documentation for the electric multiple unit of the series 412/416 by the Institute “Kirilo Savić” from Belgrade in 2004, align item 7 with the Working Instructions for the control and receiving bodies of JŽ (“Official Gazette of ZJŽ”, No 1/03).

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_03/18 is in the process of realization. New evidence has been submitted, specifically, Letter No. 1/2023-873 dated 21.06.2023, from “Srbija Voz” a.d, which was addressed to the Directorate for Railways with the aim of obtaining an opinion regarding the proposed changes and amendments.

**SR\_05/18** “Srbija Voz” a.d. should harmonize its Instructions for the Maintenance of Traction Vehicles No. 4/2016-16-4, dated 23.02.2016, with Article 34, paragraph 2 and Article 36 of the Rulebook on Rolling Stock Maintenance No. 340-382-7/2015 dated 04.12.2015. (“Official Gazette of RS”, No. 101/15), or to thoroughly reexamine the deadlines for regular repairs by taking the original technical documentation as a basis and to change them only after performing a risk evaluation and risk assessment based on information about the determined condition (especially measurement limits) during previous regular repairs, as well as perform analyses of extraordinary repairs and unplanned works.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_05/18 is in the process of realization. New evidence has been provided that “Srbija Voz” a.d. engaged a certified body in June 2023 for the purpose of an independent assessment.



**SR\_06/18** “Srbija Voz” a.d. should perform a risk assessment for passenger transport in EMV of the series 412/416 where the extension of the deadlines for regular repairs was done before a previously performed risk evaluation and risk assessment based on the extension of these deadlines, as specified in paragraph 1, under 2) in Article 36 of the Rulebook on Rolling Stock Maintenance No. 340-382-7/2015 dated 04.12.2015. (“Official Gazette of RS”, No.101/15) and in paragraph 2, item 4.13. of the Rules of Procedure of the Safety Management System of “Srbija Voz” a.d. (due to the incident that occurred).

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_06/18 is in the process of realization. New evidence has been submitted that “Srbija Voz” a.d. engaged a certified body in June 2023 for the purpose of an independent assessment.

**SR\_07/18** Directorate for Railways should reexamine the content of the Maintenance File for EMV 412/416 and take measures from its area of competence, as the changes of the maintenance conditions specified by the manufacturer were not performed in accordance with Article 36 of the Rulebook on Rolling Stock Maintenance No. 340-382-7/2015 dated 04.12.2015. (“Official Gazette of RS”, No 101/15).

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_07/18 is executed. In addition to the mentioned report, new evidence has been provided in the form of correspondence I-01 No. 340-801/2023 dated 21.07.2023. and Decision I-01 No. 340-143-3/2020 dated 12.02.2020.

**5.2.2. Investigation Report (ŽS-05/17) 33 No. 340-00-10144/2017-20 of 18.05.2018. (serious accident, overtaking of the train No. 4905 on the road passenger vehicle of 09.10.2017. at 20:26 on the main arterial route E 70/E 85: Belgrade - Mladenovac - Lapovo - Niš - Preševo - state border - (Tabanovce), on the level crossing, ensured with the traffic signs on the road and the necessary visibility zone, which is located on the open track between the stations Grdelica and Predejane)**

**SR\_09/18** Ministry of Construction, Transport and Infrastructure should adjust the Rulebook on the mode of crossing the railway line and the road, pedestrian or bicycle path, a place where you can carry out the intersection and measures for ensuring safe traffic (“Official Gazette of RS” No. 89/2016) with actual performances of the road vehicles (in the manner of adjustment by some countries in the region) and the actual state of the railway infrastructure.

It is necessary to determine whether the speed of the road vehicle over the crossing which is used in this calculations by this Rulebook, and which amounts to 4 km/h is suitable for the actual performances of the fleet, or this speed should be enlarged (for example, in the Republic of Slovenia the speed is 7 km/h). With the speed of 4 km/h, the large number of crossings cannot satisfy the minimal required zone of visibility that the Rulebook predicts.

Explanation for the Article 11 of the Rulebook, which is given in the Article 12, and which states:

“By securing the necessary zone of visibility from the Article 11 of this Rulebook, the participants in the road traffic are enabled with uninterrupted visibility on the



railway track with both sides of the road, pedestrian or bicycle path, for noticing on time of the upcoming railway vehicles on the track so that they could stop the vehicle and stop the moving of the pedestrians or bicycles before they come to the railway, that is, in front of the traffic sign that indicates the point where the road comes over the railway track at the railway level” would make sense only in the case that in front of the crossing there is no traffic sign II-2: “The obligation of stopping”. Situation on site confirms that the traffic sign II-2: “The obligation of stopping”, exists on all the crossings with passive signalization, which we consider absolutely necessary.

In the expression:

$$t_a = \frac{m + n + d + s}{V_p} \cdot 3,6 \text{ [s]}$$

in front of  $s$  should stand a sign “-”, and not the sign “+”.

**Status of the recommendation:** MGSI has provided a report - correspondence number 340-01-00533/2020-04 dated 24.07.2023. The safety recommendation SR\_09/18 has been accepted.

**SR\_10/18** “IŽS” a.d. that given the existence of construction facilities, not even from the limit of dangerous area it is not possible to provide the necessary visibility in all directions, to consider introduction of active signaling, or to solve the problem in another way.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 broj 340-800/2023 of 21.07.2023., safety recommendations SR\_10/18 is in realization. There is no evidence provided that activities related to the implementation of the safety recommendation regarding the Annual Report for 2021 have been carried out.

**SR\_11/18** “IŽS” a.d. to perform the expert- based risk assessment on the crossing. Having in mind that the accidents on the crossing (viewing them individually) are rare events, the risk evaluation cannot be done solely on the number of accidents that had happened on some crossings. The risk assessment should be done, as a measure of precaution, for all the crossing according to all the relevant parameters, whether there were accidents on them or not.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01340-800/2023 of 21.07.2023. safety recommendation SR\_11/18 is in the process of implementation. New evidence has been provided, based on which it can be confirmed that the Risk Assessment Methodology for railway level crossings by “IŽS” a.d. has been adopted (Decision No. 4/2023-4461-840 dated 17.3. 2023). The Methodology has been applied to 13 level crossings, along with activities involving road authorities.

**SR\_13/18** “IŽS” a.d. to do the act of “Programme for resolution of the level crossings” according to previously finished risk assessment, with the goal of taking certain actions to raise the level of safety in traffic.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. safety recommendation SR\_13/18 has been accepted (the implementation of security recommendation SR\_13/18 is only possible after the completion of security recommendation SR\_11/18).



**5.2.3. Investigation Report (ŽS-04/17) 33 No. 340-00-9180/2017-18 of 22.06.2018. (accident, derailment of the pushed shunting composition of 17.09.2017. at 08:45 on the main arterial route E70/E85: (Belgrade) - Rakovica - Jajinci - Mala Krsna - Velika Plana, between the junction “K1” and station Rakovica)**

**SR\_18/18** Directorate for Railways to review the Rulebook on technical conditions and maintenance of the superstructure of railway lines (“Official Gazette of RS” No.39/16,74/16) and to include in it the limit of the geometric parameters of railway condition, including twist, on the basis of standards SRPS EN 13848-5 and SRPS EN 13848-6 and to define, complied with these limits, the obligation of measuring the condition of track with track examination coach and action based on measurement results.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. In addition to the provided report, new evidence has been submitted in the form of correspondence I-01 No. 340-801/2023 dated 21.07.2023. The Directorate for Railways has issued the Regulation on the Maintenance of the Railway lines super and sub structure of No. 340-467/2023 dated 3.5.2023, published in the “Official Gazette of RS” No. 39/2023. Safety recommendation SR\_18/18 has been partially implemented.

**SR\_20/18** “IŽS”a.d. to conduct examination of the reasons why the measures have not been taken for urgent elimination of defects type “C” that were determined during the measurement with track examination coach under the Instruction on unique criteria for control of the condition of railways on the network JŽ, Instruction 339 (“Official Gazette of ZJŽ” No.2/2001 and 4/2004) and to develop coordination between sectors that determined the defect and sectors that should eliminate this defect, and under review of management in order to follow and analyse these cases. According to the evaluation of safety risks which due to this occurred, to take efficient measures for elimination of the safety flaws, and in accordance with the Article 5 of Law on safety in Railway Transport (“Official Gazette of RS” No. 41/2018) and its Safety Management System Manual.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 dated 21.07.2023, and with the Letter I-01 No. 340-827/2023 dated 31.07.2023, safety recommendation SR\_20/18 is in the process of implementation. New evidence has been provided that does not align with the clearly defined safety recommendation. However, there is no evidence submitted regarding the measures taken based on Decision No. 14-2.1/2018-17/2 dated 02.11.2018, by the Internal Control Center of “IŽS”a.d. as outlined in the safety recommendation issued by the Center (there is no information provided by “IŽS”a.d. regarding the reevaluation of the reasons for not taking urgent corrective actions for type “C” errors, safety risk assessments, coordination between departments, etc).



**5.2.4. Investigation Report (ŽS-06/17) 33 No. 340-00-10982/2017-16 of 14.08.2018.  
(accident, derailment of the train No. 56990 of 03.11.2017. at 15:25 on the local  
track Markovac - Resavica, between the station Svilajnac and Despotovac)**

**SR\_23/18** Directorate for Railways that as soon as possible defines in the current Rulebook on the technical requirements and maintenance of the superstructure of railway tracks (“Official Gazette of RS” No. 39/2016 and 74/2016) limits conditions and elements of the superstructure and substructure which requires the immediate removal of or closure of railway for traffic by eliminating unauthorized condition.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. New evidence has been submitted, that is, the Letter I-01 No. 340-801/2023 of 21.07.2023.

The Directorate for Railways has issued the Regulation on the Maintenance of the Railway Lines super and substructure, No. 340-467/2023, dated 03.05.2023 (“Official Gazette of RS” No. 39/2023), which specifies the limit values of parameters. However, it still states that reducing speed is a way to reduce the risk of derailment, with which CINS does not agree because it has not been followed, in accordance with a clearly defined safety recommendation. Safety Recommendation SR\_23/18 has been partially implemented.

**SR\_25/18** “IŽS”a.d. that, given the extremely poor condition of the track, makes an assessment of risk of train traffic on the local railway track Markovac - Resavica and take measures to reduce risks to an acceptable level. Based on this, to make a technical assessment of the minimum required resources (materials, machinery, labor) for track maintenance.

**Status of the recommendation:** Directorate for Railways submitted the Reports - a Letter I-01 No. 340-800/2023 of 21.07.2023. and a Letter I-01 No. 340-827/2023 of 31.07.2023, safety recommendation SR\_25/18 is in realization. The risk assessment of train traffic has not even been initiated, and measures have been taken to reduce the risk to an acceptable level. Based on the aforementioned, no professional assessment of the minimum required resources (materials, machinery, workforce) for maintaining the railway has been provided.

**5.2.5. Investigation Report (ŽS-07/17) 33 No.: 340-00-13136/2017-19 of 26.11.2018.  
(Accident, derailment of the train No. 53527 of 23.12.2017. at 13:15 on the regional  
line Pančevo Main Station - Zrenjanin - Kikinda - state border - (Jimbolia), in the  
area of the station Novi Bečej)**

**SR\_27/18** Directorate for Railways that in short deadline defines in the applicable Rulebook on technical conditions and maintenance of the superstructure of the railway tracks (“Official Gazette of RS” No. 39/2016 and 74/2016) the boundary conditions of elements of superstructure of the track, which require urgent elimination or closing the track for traffic until removal of unsatisfactory state.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. In the attached report, new evidence has been provided, specifically, letter I-01 No. 340-801/2023 dated 21.07.2023.



The Railway Directorate issued Rulebook on the Maintenance of the Railway Lines super and substructure, No. 340-467/2023, on 3.5.2023 (“Official Gazette of RS” No. 39/2023), which specifies the limit values of parameters. However, it still states that reducing speed is a way to reduce the risk of derailment, with which CINS does not agree because it has not been followed in accordance with a clearly defined safety recommendation. Safety Recommendation SR\_27/18 has been partially implemented.

**SR\_29/18** “IŽS” a.d. that, due to inadequate maintenance and condition of the track, sleepers and fastening systems, conducts an assessment of risk of train traffic on the regional railway line Pančevo Main Station - Zrenjanin - Kikinda - (Jimbolia) and take measures to reduce risk to an acceptable level. Based on this, to conduct a technical assessment of the minimum required resources (material, machinery, work force) for track maintenance.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2021 and I-01 No. 340-827/2023 of 31.07.2023. Safety recommendation SR\_29/18 is currently in implementation. However, there has been no risk assessment for train traffic on the regional railway line Pančevo Main Station - Zrenjanin - Kikinda - (Jimbolia). Measures have been taken to reduce the risk to an acceptable level on the section of the line between the official locations Kumane and Banatsko Miloševo (significant maintenance work on the superstructure of the track). Based on the information provided, a professional assessment of the minimum required resources (machinery and workforce) for maintaining the track has not been submitted yet, but it is planned for the next period.

**SR\_30/18** “IŽS” a.d. to review the procedures and criteria for the approval of the traffic of trains with an overload and that this process is confined to the extreme and rare individual occasions, and not as a daily practice.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. and Letter I-01 No. 340-827/2023 of 31.07.2023. Safety recommendation SR\_30/18 is currently in implementation. Based on the attachments provided, it can be noted that the implementation of the safety recommendation is not directed in an adequate manner. Nowhere in the provided attachments is it mentioned that procedures and criteria for approving the operation of overweight trains have been reevaluated to limit this practice only to exceptional and rare individual cases. Additionally, there is no information on the total number of freight trains on the relevant section of the line and how many of them operate with overweight. Such data would help guide the implementation of the safety recommendation in an adequate manner and provide an overview of the progress of its implementation.



### 5.3. The status of safety recommendations from 2019

#### 5.3.1. Investigation Report (ŽS-01/18) 33 No. 340-00-3336/2018-10 of 06.03.2019. (Accident, fire on the train No. 2746 of 30.03.2018. at 17:50 on the regional track Crveni Krst - Zaječar - Prahovo Pristanište, between the stations Matejevac and Svrljig)

**SR\_02/19** “Srbija Voz” a.d. that on the basis of quality control in the course of repair and final review of the DMK series 710, determine whether repairs were made in the required quality and scope of work, with the aim of adequate execution of the repairs in accordance with Article 8 of the Rulebook on the Maintenance of railway vehicles.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_02/19 is accepted and in realization. No new evidence have been submitted regarding the safety recommendation, in relation to the Annual Report for 2019.

**SR\_06/19** “Srbija Voz” a.d. that at the next regular repair DMK series 710, during the reconstruction of the interior applies materials in accordance with EN 45545-1 and EN 45545-2:2013+A1, that is SRPS EN 45545-1:2013 and SRPS EN 45545-2:2017.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_06/19 is in realization. No new evidence have been submitted regarding the safety recommendation, in relation to the Annual Report for 2021.

**SR\_07/19** Directorate for Railways to check the license for use of DMK series 710 in terms of improvement of technical solutions of the drive system and the application of appropriate materials in terms of controlling the fulfilment of conditions for issuing safety certificates for transport.

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_07/19 is accepted. The evidence for the implementation of activities related to the safety recommendation regarding the Annual Report for 2019 has not been provided.



**5.3.2. Investigation Report (ŽS-03/18) No. 340-00-2/2018-02-3-51 of 27.06.2019. (accident, collision of successive trains No. 2990 and 70922 of 01.08.2018. at 05:35 on the main arterial route E70/E85: Belgrade - Mladenovac - Lapovo - Niš - Preševo - state border - (Tabanovce), between the official positions Klenje and Ripanj Tunnel)**

**SR\_18/19** “IŽS” a.d. to regularly check and continuously maintain the prescribed distance of the visibility of light signals in accordance with the provisions of Article 15 of the Rulebook on maintenance of the SS devices (“Official Gazette of RS”, No. 80/2015).

**Status of the recommendation:** Directorate for Railways submitted the Report - a Letter I-01 No. 340-800/2023 of 21.07.2023. and Letter I-01 No. 340-827/2023 of 31.07.2023. Railway operators have raised objections regarding the poor visibility of main signals due to vegetation and overgrowth. From the provided attachments, it can be observed that “IŽS” a.d. has engaged a chemical train to combat vegetation. Evidence of regular inspection and maintenance of the prescribed visibility distances of light signals in accordance with the provisions of Article 14 of the Regulation on the Maintenance of SS Devices (“Official Gazette of RS”, No. 136/2020) has been submitted. However, it can be noted that not all necessary criteria have been fully met for certain signals. Safety recommendation SR\_18/19 has been partially implemented (to a limited extent).

**5.3.3. Investigation Report (ŽS-04/18) No. 340-00-1/2018-2-2-45 of 29.11.2019. (serious accident, overtaking of the train No. 7821 on the road vehicle bus of 21.12.2018. at 07:30 on the main arterial route E 70/E 85: Belgrade - Mladenovac - Lapovo - Niš - Preševo - state border - (Tabanovce), on the level crossing, secured with traffic signs on the road and the zone of necessary visibility, located in the area of the station Međurovo)**

**SR\_24/19** Ministry of Construction, Transport and Infrastructure, that in the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the point where the crossing can be made and measures to secure the safe traffic (“Official Gazette of RS” No. 89/2016), defines methodology (the manner) of determining (calculating) the elements of the zone of necessary visibility given in Annex 9 ( $d_{pz}$  - the length of stopping of the road vehicle and  $S_{pžv}$  - the length of approaching of the railway vehicle).

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 dated 24.07.2023. Safety recommendation SR\_24/19 has been accepted.

**SR\_25/19** Ministry of Construction, Transport and Infrastructure, that in the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the point where the crossing can be made and measures to secure the safe traffic (“Official Gazette of RS” No. 89/2016), defines the procedure when there exists a necessary visibility according to the definition from the Article 2 Paragraph 1 under 12) of this Rulebook and it is not possible to determine the zone of necessary visibility. In particular, it should be borne in mind that by setting the traffic sign II-2: “Obligation of stopping”, while providing the necessary visibility, enables the



safe passage of road vehicles over the crossing.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_25/19 is accepted.

**SR\_26/19** Ministry of Construction, Transport and Infrastructure that in the Article 14 of the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the point where the crossing can be made and measures to secure the safe traffic (“Official Gazette of RS” No. 89/2016), makes corrections in the expression:

$$t_v = \frac{m + n + d + s}{V_p} \cdot 3,6 \text{ [s]}$$

so that in front of s there is a sign “-”, and not the sign “+”.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_26/19 is accepted.

**SR\_27/19** Ministry of Construction, Transport and Infrastructure that in the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the point where the crossing can be made and measures to secure the safe traffic (“Official Gazette of RS” No. 89/2016), harmonize the description of the position of point B given in Article 14, Article 15 and Annex 6.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_27/19 is accepted.

**SR\_29/19** Ministry of Construction, Transport and Infrastructure to consider the possibility that in the Law on traffic safety on the roads (“Official Gazette of RS” No. 41/2009, 53/2010, 101/2011, 32/2013 - decision US, 55/2014, 96/2015 - other law, 9/2016 - decision US, 24/2018, 41/2018, 41/2018 - other law and 87/2018) Article 153 Paragraph 2 to reformulate and harmonize with the Article 97 Paragraph 1 of the Law on safety of railway traffic (“Official Gazette of RS”, No.41/2018) in terms of more precise provisions for the installation of traffic lights.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_29/19 is in realization. A Draft Law on Amendments and Supplements to the Road Traffic Safety Law has been submitted in which a proposal to amend paragraph 2 of Article 153 is provided.

**SR\_30/19** “IŽS”a.d. to conduct expertly based risk assessment on level crossings. Given that the accidents on the level crossings (by reviewing every crossing individually) are rare events, it is not possible to assess risk solely on the number of accidents which occurred on the individual level crossings. Risk assessment, as a precautionary measure, should be made jointly for all level crossings in accordance with all relevant parameters, whether the accidents occurred or not.



**Status of the recommendation:** The Directorate for Railways has delivered the report - Letter I-01 No. 340-800/2023 of 21.07.2023. Safety recommendation SR\_30/19 is in realization. New evidence has been provided based on which it can be determined that the Risk Assessment Methodology for level crossings “IŽS” a.d. has been adopted (Decision No. 4/2023-4461-840 dated 17.03.2023). The Methodology has been applied to 13 level crossings, along with activities involving road authorities.

**SR\_31/19** “IŽS” a.d. to make the act “Level Crossing Program” according to the previously done risk assessment on the level crossings with a view to undertake appropriate activities in order to raise the level of traffic safety.

**Status of the recommendation:** The Directorate for Railways has delivered the report - Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_31/19 has been accepted (the implementation of safety recommendation SR-31/19 is possible only after the execution of safety recommendation SR\_30/19).

## 5.4. The status of safety recommendations from 2020

**5.4.1. Investigation Report (ŽS-01/20) No. 340-03-1/2020-02-1-53 of 20.11.2020. (Serious accident, overtaking of the shunting composition MS-4 on the road passenger vehicle of 09.01.2020. at 02:35 on the industrial track, Oil Refinery Pančevo (“NIS” a.d. Novi Sad) on the level crossing, secured with automatic level crossing device, located in the area of the city of Pančevo, the city settlement Stara Misa)**

**SR\_01/20** Pančevo Oil Refinery (“NIS” a.d. Novi Sad) to harmonize item 2.3.13.1.2. of the Act on the industrial track of the Marshalling Yard in the Pančevo Oil Refinery (to which the Directorate for Railways gave its consent No. 340-1351/2019 of 03.10.2019.) with item 5.1.1. of the Instruction for operation of devices for automatic securing the traffic at the level crossing at km 2+231 of the own stationing of the industrial track of the Pančevo Oil Refinery from 01.01.2018. (Registration No. 1/2018), in terms of the manner of securing the traffic at the level crossing, pursuant to Article 58, item 6 of the Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03).

**Status of the recommendation:** The Directorate for Railways has submitted reports - letter I-01 No. 340-1655-2/2022 dated 02.12.2022, letter I-01 No. 340-800/2023 dated 21.07.2023, and letter I-01 No. 340-833/2023 dated 02.08.2023. Safety recommendation SR\_01/20 has been executed.

**SR\_05/20** Pančevo Oil Refinery (“NIS” a.d. Novi Sad) that in the Act on the industrial track of the Marshalling Yard in the Pančevo Oil Refinery (to which the Directorate for Railways gave its consent No. 340-1351/2019 of 03.10.2019.) and the Instruction for operation of devices for automatic securing the traffic at the level crossing at km 2+231 of the own stationing of the industrial track of the Pančevo Oil Refinery from 01.01.2018. (Registration No. 1/2018) to make corrections in terms of harmonizing the terminology “train” and “train staff” with the actual situation on the industrial track - “shunting composition” and “shunting staff”.

**Status of the recommendation:** The Directorate for Railways has submitted reports - letter I-



01 No. 340-1655-2/2022 dated 02.12.2022, letter I-01 No. 340-800/2023 dated 21.07.2023, and letter I-01 No. 340-833/2023 dated 02.08.2023. Safety recommendation SR\_05/20 has been executed.

**SR\_07/20** “Srbija Kargo” a.d. to conduct the training of the train staff, that is, the train drivers and conductors, except train driver assistants and train shunters, regarding the procedure upon entering the station in case of crossing of the level crossing secured with control signals whose device is defective, pursuant to Article 4.2.3. of the Instruction for operation of devices for automatic securing the traffic at the level crossing at km 2+231 of the own stationing of the industrial track of the Pančevo Oil Refinery from 01.01.2018. (Registration No. 1/2018).

**Status of the recommendation:** The Directorate for Railways has submitted reports - letter I-01 No. 340-1655-2/2022 dated 02.12.2022, letter I-01 No. 340-800/2023 dated 21.07.2023, and letter I-01 No. 340-833/2023 dated 02.08.2023. Safety recommendation SR\_07/20 has been executed.

**SR\_10/20** Ministry of Construction, Transport and Infrastructure to harmonize the provisions of Article 35, paragraph 1 under 2) of the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the point where the crossing can be made and measures to secure the safe traffic (“Official Gazette of RS” No. 89/2016) with Article 58, under 6. of the Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03) and Article 124 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94) regarding the manner in which the sent railway worker at the level crossing directly regulates the traffic by giving manual traffic signs to road vehicles.

Note: Article 35 Paragraph 1 under 2) of the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the point where the crossing can be made and measures to secure the safe traffic (“Official Gazette of RS” No. 89/2016) refers to the regulations that regulate traffic safety on roads, and in these regulations the stated issue is not defined (it is defined only in cases of performing works).

**Status of the recommendation:** MGSI has submitted reports - letter 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_10/20 is accepted.

## **5.5. The status of safety recommendations from 2021**

**5.5.1. Investigation Report (ŽS-02/20) No. 340-03-1/2020-02-2-49 of 03.03.2021. (serious accident, overtaking of the train No. 45403 on a road passenger vehicle on 25.07.2020. at 10:55 on the regional railway line 211: Ruma - Šabac - Junction Donja Borina - state border - (Zvornik Novi), at the level crossing, secured with road traffic signs and the zone of necessary visibility, located between the crossing point Štitar and the station Petlovača**

**SR\_01/21** Ministry of Construction, Transport and Infrastructure to harmonize the provisions of Article 69 with the provisions of Article 56 in the Law on Railways (“Official



Gazette of RS” No. 41/2018) in terms of the obligation of railway infrastructure manager to maintain the necessary visibility zone at the crossings of the railway line and the road in terms of defining the distance from the track axis (track belt) at which the infrastructure manager has the obligation to remove vegetation.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_01/21 is accepted and executed.

**SR\_02/21** Ministry of Construction, Transport and Infrastructure to clearly define in the Law on Railways (“Official Gazette of RS” No. 41/2018) in Article 69 the obligations of railway infrastructure manager and road manager in terms of maintaining the necessary visibility zone (part of the necessary visibility zone which includes the railway belt and part of the necessary visibility zone which does not include the railway belt).

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_02/21 is accepted and executed.

**SR\_03/21** Ministry of Construction, Transport and Infrastructure, in the Law on Roads (“Official Gazette of RS”, No. 41/2018 and 95/2018 - other law) in Article 68 to define (supplement) maintenance - landscaping of green areas (grass mowing, clearing shrubs and cutting of trees) in the zone of necessary visibility at the points of crossing of the railway line and the road, in accordance with Article 38, which defines the obligation to provide the zone of necessary visibility in accordance with the regulations.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_03/21 is accepted.

**SR\_04/21** Ministry of Construction, Transport and Infrastructure, to define in the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the place where the crossing can be made and the measures for ensuring safe traffic (“Official Gazette RS” No. 89/2016) the methodology (method) for determining (calculating) the elements of the zone of necessary visibility given in the Annex 9 ( $d_{pz}$  – length of stopping the road vehicle and  $S_{pžv}$  – length of approaching the railway vehicle).

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_04/21 is accepted.

**SR\_05/21** Ministry of Construction, Transport and Infrastructure, to define in the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the place where the crossing can be made and the measures for ensuring safe traffic (“Official Gazette RS”, No. 89/2016) the procedure in the case when there is the necessary visibility according to the definition from Article 2, Paragraph 1 under 12) of this Rulebook and it is not possible to provide the zone of necessary visibility. In particular, it should be borne in mind that the installation of traffic sign II-2: “Obligation of stopping” while providing the necessary visibility, allows



safe passage of road vehicles over the crossing.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_05/21 is accepted.

**SR\_06/21** Ministry of Construction, Transport and Infrastructure, to make corrections in the expression in Article 14 of the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the place where the crossing can be made and the measures for ensuring safe traffic (“Official Gazette of RS” No. 89/2016):

$$t_v = \frac{m + n + d + s}{V_p} \cdot 3,6 \text{ [s]}$$

so that in front of s there is a sign “-”, and not the sign “+”.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_06/21 is accepted.

**SR\_07/21** Ministry of Construction, Transport and Infrastructure to harmonize, in the Rulebook on the manner of crossing of the railway line and the road, pedestrian or bicycle path, the place where the crossing can be made and the measures for ensuring safe traffic (“Official Gazette of RS” No. 89/2016), the description of the position of point B given in Article 14, Article 15 and Annex 6.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR-07/21 is accepted.

**SR\_08/21** Ministry of Construction, Transport and Infrastructure to consider the possibility that in the Law on Road Traffic Safety (“Official Gazette of RS” No. 41/2009, 53/2010, 101/2011, 32/2013 - decision US, 55/2014, 96/2015 - other law, 9/2016 - decision US, 24/2018, 41/2018, 41/2018 - other law and 87/2018) Article 153, Paragraph 2 reformulates and harmonizes with the Article 97, Paragraph 1 of the Law on Railway Traffic Safety (“Official Gazette of RS” No. 41/2018) in terms of more precise provisions for the installation of traffic lights.

**Status of the recommendation:** MGSI has delivered the report - Letter No. 340-01-00533/2020-04 of 24.07.2023. Safety recommendation SR\_08/21 is in realization. A draft law on amendments and supplements to the Road Traffic Safety Act has been provided, in which a proposal to amend paragraph 2 of Article 153 is presented.

**SR\_09/21** “IŽS” a.d. to consider a change in the level of insurance (introduction of active signalization) for the level crossing in question, or solve the problem in some other way. Due to the existence of facilities near the level crossing and the curve on the railway, the necessary visibility zone is not provided, and due to the abundant vegetation in the infrastructure belt and thus in the railway belt, the necessary visibility is not provided. It is also a fact that the level crossing in question is a crossing of a regional line and a state road of IIA rank.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-



01 No. 340-800/2023 of 21.07.2023. Safety recommendation SR\_09/21 is in realization. New evidence has been provided based on which it can be determined that a change in the level of security is planned as part of the reconstruction, modernization, and electrification of the railway line Ruma - Šabac - junction Donja Borina - state border (Zvornik Novi).

**SR\_10/21** “IŽS”a.d. to make a professionally based risk assessment at level crossings. Bearing in mind that accidents at level crossings (observing each crossing separately) are rare events, risk assessment cannot be performed only on the basis of the number of accidents that occurred at individual level crossings. Risk assessment, as a precautionary measure, should be performed collectively for all level crossings according to all relevant parameters, regardless of whether accidents have occurred at them or not.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-800/2023 of 21.07.2023. Safety recommendation SR\_10/21 is in realization. New evidence has been provided based on which it can be confirmed that the Risk Assessment Methodology for level crossings “IŽS”a.d. has been adopted (Decision No. 4/2023-4461-840 dated 17.03.2023). The Methodology has been applied to 13 level crossings, along with activities involving road authorities.

**SR\_11/21** “IŽS”a.d. to make an act “Program for solving level crossings” according to the previously done risk assessment at level crossings, in order to take appropriate activities with the aim to raise the level of traffic safety.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-800/2023 of 21.07.2023. Safety recommendation SR\_11/21 is accepted. (The implementation of safety recommendation BP\_11/21 is only possible after the execution of safety recommendation BP\_10/21).

**5.5.2. Investigation Report (ŽS-02/20) No. 340-00-2/2020-02-1-53 of 17.11.2021. (accident, derailment of the train No. 45022 of 28.11.2020. at 19:27 on the main arterial line 102: Belgrade Center - Junction “G” - Rakovica - Mladenovac -Lapovo - Niš - Preševo - state border - (Tabanovce), between the stations Bagrdan and Jagodina, on the left track of the two-track railway line)**

**SR\_12/21** Directorate for Railways, to consider the justification of the abolition of Paragraph 9 of Article 8 of the Rulebook on technical conditions and maintenance of railway lines superstructure (“Official Gazette of RS”, No. 36/16), which reads: “Alternate (mixed) installation of wooden and concrete sleepers is not allowed” and justification to return via amendments to the stated Article (“Official Gazette of RS”, No. 36/16 and 74/16) the aforementioned Paragraph of the Rulebook on technical conditions and maintenance of railway lines superstructure.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-800/2023 of 21.07.2023. As an attachment to the mentioned report, new evidence has been provided, namely letter I-01 number 340-801/2023 dated 21.07.2023. The Railway Directorate has adopted the Regulation on Technical Conditions for the Infrastructure Subsystem No. 340-466/2023 dated 03.05.2023 (“Official Gazette of RS” No. 39/2023), in



which Article 48, paragraph 4, includes the provision: “the alternating installation of concrete and wooden sleepers is not applicable”. Safety recommendation SR\_12/21 is executed.

**SR\_13/21** “IŽS” a.d, to conduct the risk assessment of train traffic on the main arterial line 102: Belgrade Center - Junction “G”- Rakovica - Mladenovac - Lapovo - Niš - Preševo - state border - (Tabanovce), left track, from Markovac station (exclusively) km 101+057 to Jagodina station (inclusive) km 136+000, given the inadequate maintenance and condition of tracks, sleepers and fasteners and the insufficient number of executors for maintenance from the construction industry and take measures to reduce the risk to an acceptable level.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-800/2023 of 21.07.2023. and I-01 No. 340-827/2023 of 31.07.2023. Safety recommendation SR\_13/21 is in realization. Evidence has been provided that by Decision No. 2/2022-191 dated 08.06.2022, of the Executive Director for the Management of Public Railway Infrastructure, a group of experts was formed with the task of conducting a risk assessment procedure (the deadline for task completion was 31.12.2022). There are no new pieces of evidence regarding the Annual Report for the year 2021.

**SR\_14/21** “IŽS” a.d. in the Rulebook on organization and work positions systematization of “IŽS” a.d. Belgrade, to consider the adequacy of the existing ones and consider the possibility to predict the appropriate number of executors in the construction industry both on the section of the railway on which the accident occurred and on the entire network in order to ensure the safe conduct of railway traffic. In accordance with the appropriate number of executors to plan the procurement of the necessary machinery and tools, all in order to ensure the safe conduct of railway traffic.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-176/2022 of 10.02.2022. Safety recommendation SR\_14/21 is not accepted by Directorate for Railways.

The Railway Directorate has submitted reports - letter I-01 No. 340-800/2023 dated 21.07.2023, and letter I-01 No. 340-827/2023 dated 31.07.2023, from which it can be noted that “IŽS” a.d. has accepted the safety recommendation and that safety recommendation SR\_14/21 is in realization.

**SR\_15/21** Elixir Zorka Mineral Fertilizers d.o.o. Šabac, to establish maintenance procedures with a list of instructions that must be an integral part of the maintenance file with a detailed list of scope of work in regular repairs of wagon-tanks for transportation of sulfuric acid.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-176/2022 of 10.02.2022. Safety recommendation SR\_15/21 is not accepted by Directorate for Railways.

The Railway Directorate has submitted a report - Letter I-01 No. 340-877/2022 dated 29.07.2022, in which it is stated that the Railway Directorate has sent a request to Elixir Zorka Mineral Fertilizers d.o.o. Šabac (the reference number and date of the request were not provided, and the request itself has not been delivered, so CINS cannot confirm that the said



request was sent) for information on the status of the safety recommendation, but they have not yet received a response. Upon receiving information from the company, all evidence will be provided to CINS for the purpose of assessing the fulfilment of the safety recommendation.

The Railway Directorate has not submitted a report for this safety recommendation for the Annual Report for the year 2022. There is no change in relation to the Annual Report for the year 2021.

**SR\_16/21** Elixir Zorka Mineral Fertilizers d.o.o. Šabac, to establish maintenance procedures, in accordance with the requirements of the Rulebook on maintenance of railway vehicles (“Official Gazette of RS” No. 144/2020), where the maintenance of bogies must be performed according to the manufacturer's instructions, and the procedures must be harmonized with that instruction, considering that wagons with worn inserts of the center bowl and side bearers represent a significant risk of derailment in curves and in which the documentation of the characteristics of the buffer after repair and comparison with the characteristic given by the manufacturer will be defined, i.e. for newer and reconstructed wagons in accordance with the required characteristic according to EN 15551 for the corresponding type of buffer.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-176/2022 of 10.02.2022. Safety recommendation SR\_16/21 is not accepted by Directorate for Railways.

The Railway Directorate has submitted a report - Letter I-01 No. 340-877/2022 dated 29.07.2022, in which it is stated that the Railway Directorate has sent a request to Elixir Zorka Mineral Fertilizers d.o.o. Šabac (the reference number and date of the request were not provided, and the request itself has not been delivered, so CINS cannot confirm that the said request was sent) for information on the status of the safety recommendation, but they have not yet received a response. Upon receiving information from the company, all evidence will be provided to CINS for the purpose of assessing the fulfilment of the safety recommendation.

The Railway Directorate has not submitted a report for this safety recommendation for the Annual Report for the year 2022. There is no change in relation to the Annual Report for the year 2021.

**SR\_17/21** Elixir Group d.o.o. Šabac, as the holder for whose needs the transport is performed, it is necessary to provide procedures for proper closing of tank lids in accordance with the manufacturer's instructions, which include: checking the cleanliness and flatness of adjacent surfaces, use of undamaged prescribed seals, closing the opening with the projected number of screws with a torque wrench with the torque prescribed by the manufacturer. If this information is not known from the manufacturer, the tightening torque must be prescribed according to the general technical standards for pressure vessels.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-176/2022 of 10.02.2022. Safety recommendation SR\_17/21 is not accepted by Directorate for Railways.

The Railway Directorate has submitted a report - Letter I-01 No. 340-877/2022 dated 29.07.2022, in which it is stated that the Railway Directorate has sent a request to Elixir Zorka



Mineral Fertilizers d.o.o. Šabac (the reference number and date of the request were not provided, and the request itself has not been delivered, so CINS cannot confirm that the said request was sent) for information on the status of the safety recommendation, but they have not yet received a response. Upon receiving information from the company, all evidence will be provided to CINS for the purpose of assessing the fulfilment of the safety recommendation.

The Railway Directorate has not submitted a report for this safety recommendation for the Annual Report for the year 2022. There is no change in relation to the Annual Report for the year 2021.

**SR\_18/21** Elixir Group d.o.o. Šabac, as the holder for whose needs the transport is performed, should require that staff be trained at all loading and unloading points to properly close the lids and carry it out according to the adopted procedure.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-176/2022 of 10.02.2022. Safety recommendation SR\_18/21 is not accepted by Directorate for Railways.

The Railway Directorate has submitted a report - Letter I-01 No. 340-877/2022 dated 29.07.2022, in which it is stated that the Railway Directorate has sent a request to Elixir Group d.o.o. Šabac (the reference number and date of the request were not provided, and the request itself has not been delivered, so CINS cannot confirm that the said request was sent) for information on the status of the safety recommendation, but they have not yet received a response. Upon receiving information from the company, all evidence will be provided to CINS for the purpose of assessing the fulfilment of the safety recommendation.

The Railway Directorate has not submitted a report for this safety recommendation for the Annual Report for the year 2022. There is no change in relation to the Annual Report for the year 2021.

**SR\_19/21** Elixir Group d.o.o. Šabac, as the holder of the wagons which did not have individual licenses to prescribe in its acts the verification of the existence of an individual license for use, before using the wagon and to conduct additional training of its staff on this issue.

**Status of the recommendation:** Directorate for Railways has delivered the report - Letter I-01 No. 340-176/2022 of 10.02.2022. Safety recommendation SR\_19/21 is not accepted by Directorate for Railways.

The Railway Directorate has submitted a report - Letter I-01 No. 340-877/2022 dated 29.07.2022, in which it is stated that the Railway Directorate has sent a request to Elixir Group d.o.o. Šabac (the reference number and date of the request were not provided, and the request itself has not been delivered, so CINS cannot confirm that the said request was sent) for information on the status of the safety recommendation, but they have not yet received a response. Upon receiving information from the company, all evidence will be provided to CINS for the purpose of assessing the fulfilment of the safety recommendation.

The Railway Directorate has not submitted a report for this safety recommendation for the Annual Report for the year 2022. There is no change in relation to the Annual Report for the year 2021.



**5.5.3. Investigation Report (ŽS-04/20) No. 340-03-1/2020-02-3-42 of 22.11.2021. (serious accident, overtaking of the train No. 6431 on the road passenger vehicle of 02.12.2020. at 08:15 on the main arterial line 110: Subotica - Bogojevo - state border - (Erđut), on the level crossing secured with automatic half barriers with light traffic signs and traffic signs on the road, located in the area of the settlement Bajmok)**

**SR\_26/21** “IŽS”a.d. to revise the technical documentation and diagnostic software for the level crossing device PZZ-EA, and to consider the need for their supplementation and correction in terms of correct and clear translation into Serbian with the use of precise and professional terms. This primarily refers to the documentation for the operation and maintenance of the device, so that the content of the mentioned documentation is clear to the employees of the maintenance service.

**Status of the recommendation:** Directorate for Railways submitted a Report – Letter I-01 No. 340-178/2022 of 11.02.2022, safety recommendation SR\_26/21 has not been accepted by the Directorate for Railways.

Directorate for Railways submitted a Report – Letter I-01 No. 340-800/2023 of 21.07.2023. and Letter I-01 No. 340-827/2023 of 31.07.2023. based on which it can be seen that “IŽS”a.d. has accepted the safety recommendation.

**SR\_27/21** “IŽS”a.d. to continuously during the regular training of workers employed in the regular maintenance of SS devices, analyses the operation of available software tools for diagnosing the operation of electronic devices of level crossings. During corrective maintenance of the electronic level crossing device, on those devices where it is applicable, by using electronic diagnostic devices to accurately determine the cause of the fault and enter it into the appropriate records kept in “IŽS”a.d.

**Status of the recommendation:** Directorate for Railways submitted a Report – Letter I-01 No. 340-178/2022 of 11.02.2022, safety recommendation SR\_27/21 has not been accepted by the Directorate for Railways.

Directorate for Railways submitted a Report – Letter I-01 No. 340-800/2023 of 21.07.2023. and Letter I-01 No. 340-827/2023 of 31.07.2023. based on which it can be seen that “IŽS”a.d. has accepted the safety recommendation SR\_27/21 and that it has been partially implemented. New evidence has been provided from which it can be concluded that the safety recommendation has been implemented in the ETP Section Novi Sad, OC Subotica.

**SR\_28/21** “IŽS”a.d. in the Rulebook on organization and work positions systematization of “IŽS”a.d. Belgrade, to consider the adequacy of the existing ones and consider the possibility to predict the appropriate number of executors in the electro technical affairs (worker on SS devices and facilities maintenance) both on the section of the railway on which the serious accident occurred and on the entire network in order to reduce the time of starting the process of elimination of the fault to a measure that is in accordance with the Rulebook on maintenance of signalling and safety devices (“Official Gazette RS”, No. 41/18), thus minimizing the time in which SS devices are in the state of fault, all in order to ensure the safe conduct of railway traffic.



**Status of the recommendation:** Directorate for Railways submitted a Report – Letter I-01 No. 340-178/2022 of 11.02.2022, safety recommendation SR\_28/21 has not been accepted by the Directorate for Railways.

Directorate for Railways submitted a Report – Letter I-01 No. 340-800/2023 of 21.07.2023. and Letter I-01 No. 340-827/2023 of 31.07.2023. based on which it can be seen that “IŽS” a.d. has accepted the safety recommendation SR\_28/21 and that it is in realization.

**SR\_29/21** “IŽS” a.d. to carry out activities on obtaining a use permit issued by the Ministry of Construction, Transport and Infrastructure for level crossing at km 102+890, in accordance with the Article 158 of the Law on Planning and Construction (“Official Gazette of RS”, No. 72/2009, 81/2009 - amended, 64/2010 – US decision, 24/2011, 121/2012, 42/2013 - US decision, 50/2013 - US decision, 98/2013 - US decision, 132/2014, 145/2014, 83/2018, 31/2019, 37/2019 - other law, 9/2020 and 52/2021).

**Status of the recommendation:** Directorate for Railways submitted a Report – Letter I-01 No. 340-178/2022 of 11.02.2022, safety recommendation SR\_29/21 has not been accepted by the Directorate for Railways.

The Directorate for Railways has delivered reports - letter I-01 No. 340-800/2023 dated 21.07.2023, and letter I-01 No. 340-827/2023 dated 31.07.2023, from which it can be observed that “IŽS” a.d. has accepted the safety recommendation. No new evidence of measures taken by the Investment Sector within “IŽS” a.d. has been provided.

**SR\_32/21** The Ministry of Construction, Traffic and Infrastructure to harmonize the Article 2, item 11 and Annex 2 of the Rulebook on the manner of crossing the railway and road, pedestrian or bicycle path, the place where the crossing can be made and measures to ensure safe traffic (“Official Gazette of RS” No. 89/2016) with Annex 2 of the Rulebook on technical conditions for signalling-safety devices (“Official Gazette of RS”, No. 18/2016 and 89/2016) regarding the definition of the border of the dangerous zone of the level crossing, that is, the border of the free profile.

**Status of the recommendation:** MGSI has submitted a report - Letter No. 340-01-00533/2020-04 dated 24.07.2023. Safety recommendation SR\_32/21 has been accepted.

## **5.6. Status of safety recommendations from 2022**

**5.6.1. Investigation Report (ŽS-01/21) No. 340-01-1/2021-02-1-48 of 21.01.2022. (serious accident, overtaking of the pulled shunting composition on the railway worker on 03.02.2021. at 08:29, at the main arterial line No. 103: (Belgrade Center) - Rakovica - Jajinci - Mala Krsna - Velika Plana, at the Mala Krsna station)**

**SR\_01/22** “IŽS” a.d. to perform extraordinary training of station staff in terms of proper movement, in terms of danger from the railway vehicles in motion pursuant to Article 16, paragraph 1 under 1. and 18. of the Rulebook on special measures of protection at work in railway traffic (“Official Gazette of the SRS”, No. 19/85)

**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 340-88-3/2022 dated 10.06.2022, safety recommendation SR\_01/22 has been accepted.



The Directorate for Railways has delivered reports - Letter I-01 No. 340-676/2022 dated 10.06.2022, Letter I-01 No. 340-752/2022 dated 27.06.2022, Letter I-01 No. 340-771/2022 dated 01.07.2022, Letter I-01 No. 340-877/2022 dated 29.07.2022, and Letter I-01 No. 340-800/2023 dated 21.07.2023, safety recommendation SR\_01/22 has been executed.

**SR\_02/22** “IŽS”a.d. to perform extraordinary training of station staff regarding the use of protective equipment pursuant to Article 35 of the Law on Safety and Health at Work (“Official Gazette of RS” No. 101/2005, 91/2015 and 113/2017 - other law), Business Order of the Mala Krsna Station Part I, case No. 15/2019-68 of 21.01.2019, Sector for SP, “IŽS”a.d. (Chapter E - Provisions regarding the organization of other activities in the station, 8.1. Cleaning and maintenance of switches) and the Risk Assessment Act for all workplaces in the work environment of “IŽS”a.d. No. 1/2016-4958 of 09.12.2016.

**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 340-88-3/2022 dated 10.06.2022, safety recommendation SR\_02/22 has been accepted.

The Directorate for Railways has delivered reports - Letter I-01 No. 340-676/2022 dated 10.06.2022, Letter I-01 No. 340-752/2022 dated 27.06.2022, Letter I-01 No. 340-771/2022 dated 01.07.2022, Letter I-01 No. 340-877/2022 dated 29.07.2022, and a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_02/22 has been executed.

**SR\_03/22** “IŽS”a.d. to perform extraordinary training of the shunting unit (shunting operator and shunter) in terms of proper performance of shunting work, with special emphasis on the position of the shunter and shunting operator upon driving a shunting composition, pursuant to Articles 23, 116 and 117 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94).

**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 340-88-3/2022 dated 10.06.2022, safety recommendation SR\_03/22 has been accepted.

The Directorate for Railways has delivered reports - Letter I-01 No. 340-676/2022 dated 10.06.2022, Letter I-01 No. 340-752/2022 dated 27.06.2022, Letter I-01 No. 340-771/2022 dated 01.07.2022, Letter I-01 No. 340-877/2022 dated 29.07.2022, and a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_03/22 has been executed.

**SR\_04/22** “IŽS”a.d. to perform extraordinary training of staff (shunting operators) regarding the issuance of orders for the formation of shunting drive routes, pursuant to Article 107 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94).

**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 340-88-3/2022 dated 10.06.2022, safety recommendation SR\_04/22 has been accepted.

The Directorate for Railways has delivered reports - Letter I-01 No. 340-676/2022 dated 10.06.2022, Letter I-01 No. 340-752/2022 dated 27.06.2022, Letter I-01 No. 340-771/2022 dated 01.07.2022, Letter I-01 No. 340-877/2022 dated 29.07.2022, and a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_04/22 has been executed.



**SR\_05/22** “Srbija Kargo” a.d. to perform extraordinary training of traction vehicle staff regarding the possession of the driver's cab in accordance with Article 30, item 3 of the Traffic Instruction 40 (“Official Gazette of ZJŽ”, No. 6/80, 3/82, 6/83, 2/84, 4/88, 8/88, 9/90, 2/91, 2/94 and 2/01) and Article 121 of the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 и 2/94).

**Status of the recommendation:** The Directorate for Railways has provided report - letter I-01 No. 340-88-3/2022 dated 10.6.2022, safety recommendation SR\_05/22 has been accepted.

The Directorate for Railways has also delivered reports - Letter I-01 No. 340-676/2022 dated 10.06.2022, Letter I-01 No. 340-877/2022 dated 29.07.2022, and a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR-05/22 has been executed.

**5.6.2. Investigation Report (ŽS-02/21) No. 340-01-1/2021-02-2-42 of 01.06.2022. (serious accident, overtaking of the pushed shunting composition on the railway worker on 12.07.2021. at 07:43 in the area of the industrial railway JP “EPS” Branch TENT from Obrenovac, at the station Obrenovac)**

**SR\_06/22** JP “EPS” Branch TENT from Obrenovac, to perform extraordinary training of the shunting staff (train driver, shunting operator and the shunter) in terms of proper execution of the shunting tasks, with special reference to the conditions for safe start and movement of the shunting composition, the position of the shunter and the shunting operator when driving the shunting composition, in accordance with the items 23, 116 and 117 of the Shunting Instruction 42 (“Official Gazette ZJŽ”, No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94), that is, the Article 75 of the Traffic Rulebook (“Official Gazette RS”, No.34/22).

**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 340-648-5/2022 dated 04.07.2022, safety recommendation SR\_06/22 has been accepted.

The Directorate for Railways has delivered reports - Letter I-01 No. 340-648-7/2022 dated 27.09.2022. and a Letter I-01 No. 340-800/2023 of 21.07.2023. safety recommendation SR\_06/22 has been partially executed. Based on the provided evidence, it can be determined that the safety recommendation has been executed and implemented for train drivers in the traction service. However, for employees in the traffic-related activities, specifically shunting operators and shunters, the safety recommendation has not been implemented after the issuance of the safety recommendation and Decision I-01 No. 340-648-4/2022 dated 30.06.2022, by the Directorate for Railways.

**SR\_07/22** JP “EPS” Branch TENT from Obrenovac, to amend the Business Order of Obrenovac station, and to precisely define which employees at which work positions are obliged to perform the duties of shunting operator (such as: train dispatcher for unloading - “OB2”, train dispatcher for unloading - “OB1”, separate shunting operator or the shunter who performs the duties of the shunting operator) with special reference to the scope of work and in accordance with the Shunting Instruction 42 (“Official Gazette ZJŽ”, No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94), that is, the Traffic Rulebook (“Official Gazette RS”, No.34/22).



**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 648-5/2022 dated 04.07.2022, safety recommendation SR\_07/22 has been accepted.

The Directorate for Railways has also delivered reports - Letter I-01 No. 340-648-7/2022 dated 27.09.2022. and a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_07/22 has been executed.

**SR\_08/22** JP “EPS” Branch TENT from Obrenovac, to consider the possibility of a constructive solution for the installation of steps and handrails on the front sides of the wagon type Arbel of series Faboo, for safe stay of train attendants during shunting drives or to apply other measures in order to perform shunting drives with attendants in accordance with the Shunting Instruction 42 (“Official Gazette of ZJŽ” No. 3/80, 6/83, 3/87, 4/88, 6/91 and 2/94) that is, the Traffic Rulebook.

**Status of the recommendation:** The Directorate for Railways has provided report - Letter I-01 No. 648-5/2022 dated 04.07.2022, safety recommendation SR\_08/22 has been accepted.

The Directorate for Railways has delivered reports - Letter I-01 No. 340-648-7/2022 dated 27.09.2022. and a Letter I-01 No. 340-800/2023 of 21.07.2023, safety recommendation SR\_07/22 has been accepted.