



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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ANNUAL REPORT FOR 2020



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 2020 consists of:

- Information on CINS
- Investigative procedure in the field of railway transport
- Investigations opened in 2020
- Investigations closed in 2020
- 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
DMV	Diesel 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	Oil Industry of Serbia
ŽRS	Republika Srpska Railways
BZR	Health and Safety
ZOP	Fire protections
PU	Police Administration
VJT	Higher Public Prosecutor’s Office
OJT	Basic Public Prosecutor’s Office
SS	Safety signalling
TK	Telecommand



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1. CINS

1.1. Legal framework

Implementing the Directive 2004/49/EC of the European Parliament and of the Council of EU in the legislative system of the RS was performed by bringing the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), Law on Interoperability of the Railway System (“Official Gazette of RS”, No.41/18) and the day of bringing into force of Law on Safety in Railway Traffic (“Official Gazette of RS”, No.41/18), that is on 08.06.2018. 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 apply, except for the Provision of the Article 78, Paragraph 1, Item 5), Sub-item (1), which shall cease to be valid after three years from the date of entry into force of this Law, that is, on 08.06.2021.

CINS, comprising of the Sector for Investigation of Accidents in Railway Traffic, is a special organization which conducts investigation after serious accidents on the railway system. Apart from serious accidents, CINS can investigate other accidents and incidents, which could lead to serious accidents, including technical failure of the structural subsystems or of 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).

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

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 independent from all the parties and organizations competent for railway traffic. CINS conducts investigation after serious accidents on the railway system with the aim of improving railway safety and prevention of accidents.

Professional activities relating to investigations are independent from criminal investigations or other parallel investigations that determine liability or determine the degree of guilt.

Investigation and determining the causes of accidents is not aimed at establishing criminal, economic, misdemeanor, disciplinary, civil or other responsibilities.



1.2. Role and goal

CINS has been established with the Law on Investigation of Accidents in Air, Railway and Waterborne Traffic (“Official Gazette of RS” No. 66/15 and 83/18), since July 2015, as a special organization whose task is to carry out professional activities relating 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 water traffic. CINS has the status of the legal entity, and the headquarters of CINS are in Belgrade.

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

According to the 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 conducted investigation. Recommendations are addressed to the Directorate for Railways, and when needed, to other interested bodies and organizations of other states and international organizations. The Directorate for Railways is taking measures to take into account the safety recommendations, as well as to follow and act on them. The Directorate for Railways and other bodies and organizations, except bodies and organizations of other states and international organizations, are obliged to take the necessary measures in order to take into account the CINS’ safety recommendations in an appropriate manner and, depending on the case, act on them. The Directorate for Railways and other bodies and organizations to which safety recommendations have been addressed, except for bodies and organizations of other states and international organizations, are obliged to submit at least once a year, a Report to CINS on measures taken or planned to be taken on the basis of safety recommendations issued in the previous year, and no later than July 31st 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 there are the following basic internal units: 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, Group for Financial, Legal and Personnel Affairs, has been established.

CINS's structure has been presented in Figure 1.3.1.

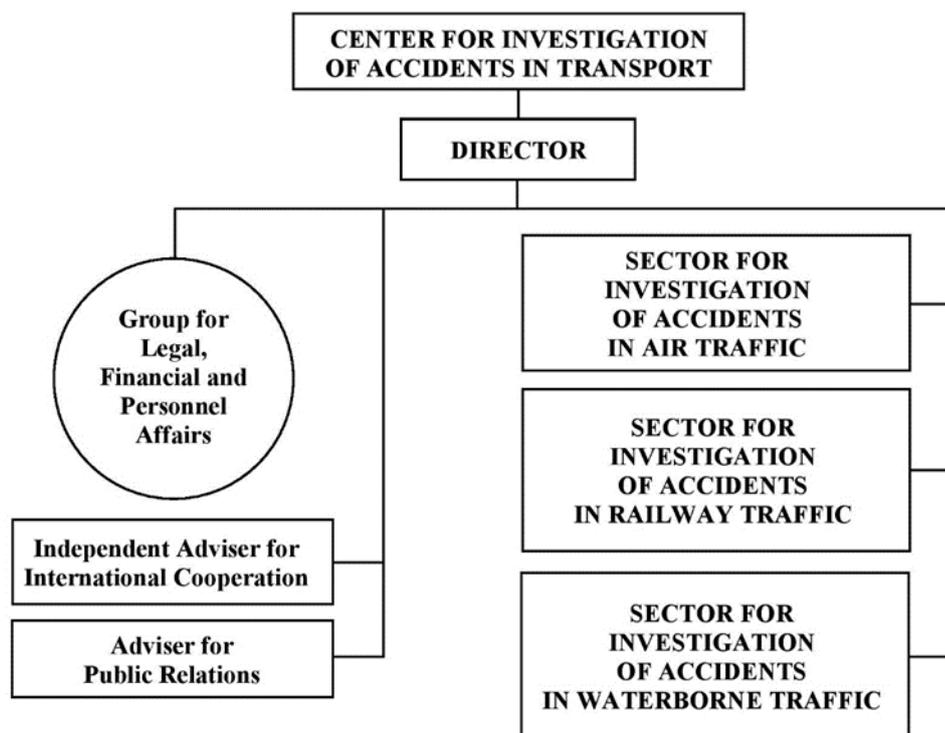


Figure 1.3.1: The structure of CINS

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. 110-00-1/2019-04 of 24.05.2019., which came into force on 12.06.2019., within the Sector for Investigation of Accidents in Railway Traffic the following four 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, Independent Adviser for Investigation and Railway Accidents Analysis and Adviser for Investigation of Accidents in Railway Traffic.



Sector for Investigation of Accidents in Railway Traffic in 2020 employed:

1. Assistant to Main Investigator - Main Investigator in Railway Traffic,
2. Senior Adviser for Coordination of Investigation and Railway Accidents Analysis and
3. Independent Adviser for 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). 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

Investigations 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. The Report form 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. INVESTIGATIONS OPENED IN 2020

Sector for Investigation of Accidents in Railway Traffic has become operational on 26.06.2017. In 2020, 4 (four) investigations have been initiated.

Basic data on investigations that Sector for Investigations of Accidents in Railway Traffic has initiated in 2020 are shown in Table 3.1.

Table 3.1: Review of investigations initiated in 2020

TYPE OF ACCIDENT OR INCIDENT	No.	[%]
Serious accidents	3	75.0
Accidents	1	25.0
Incidents	0	0.0
TOTAL:	4	100.0

Basic data about the fatally injured and injured persons for investigations that the Sector for investigation of accidents in railway traffic initiated in 2020, are shown in Table 3.2.

Table 3.2: Review of fatally injured and injured persons for investigations initiated in 2020

	Passengers	Railway staff	Third parties	Total
Fatally injured	-	-	4	4
Seriously injured	-	-	3	3
Lightly injured	-	-	1	1

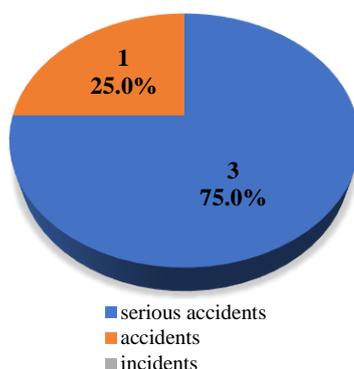


Figure 3.1: Investigations initiated in 2020

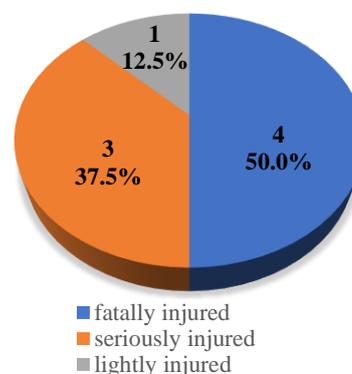


Figure 3.2: Fatally injured and injured in 2020

3.1. On the level crossing, overtaking of the MS-4 shunting composition on the road passenger vehicle

On 09.01.2020. at 02:35 on the industrial track of Oil Refinery Pančevo (“NIS” a.d. Novi Sad) on the level crossing at km 2+231 secured with automatic level crossing device, it came to overtaking of the shunting composition MS-4 on the road passenger vehicle of brand Renault type Kangoo of license plates PA 086-LŠ.

Road passenger vehicle of the brand Renault type Kangoo of license plates PA 086-LŠ, was moving along the state road 1B rank, No. 14.: Pančevo - Kovin - Ralja - connection with the state road 33 which passes through the settlement of Stara Misa (St. Bavaništanski put in Pančevo), from the direction of the center of Pančevo to Kovin. Upon encountering the level crossing at km 2+231 of the own stationing of industrial track of Oil Refinery Pančevo (“NIS” a.d. Novi Sad), the road passenger vehicle did not stop in front of the level crossing, but continued driving and entered the profile of the track just before the MS-4 shunting composition arrived.

Shunting composition MS-4 was moving along the industrial track of the Oil Refinery Pančevo (“NIS” a.d. Novi Sad), from the direction of Marshalling Yard of Oil Refinery Pančevo to the direction of the station Pančevo Varoš. The shunting composition MS-4 consisted of shunting locomotive 661-155 and 21 (twenty-one) wagon-tanks of the series Za loaded with oil derivatives (motor gasoline and eurodiesel). By approaching the level crossing at km 2+231 of the own stationing of the industrial track, it came to overtaking of the shunting composition MS-4 on the road passenger vehicle, which just before encountering the level crossing, had entered the profile of the track. The overtaking occurred in a manner that right part of the front of the shunting locomotive 661-155 (front right bumper) hit the front right part of the side of the road passenger vehicle (viewed in the direction of driving of the shunting composition MS-4, that is, road passenger vehicle).

Upon overtaking, the shunting composition MS-4 continued further moving in the length of 12 m, after which it stopped (Figure 3.1.1.).



Figure 3.1.1: Appearance of the shunting locomotive 661-155 and the road passenger vehicle after the serious accident (view from the road, in the direction opposite to the direction of the road passenger vehicle movement, source: “NIS” a.d.)

After the collision, the shunting composition MS-4 threw the road passenger vehicle to the

right side in relation to the direction of movement of the shunting composition MS-4, i.e., to the left side in relation to the direction of movement of the road passenger vehicle, in the next road lane, upon which the road passenger vehicle rotated 90°. On that occasion, the right side of the road passenger vehicle was significantly damaged (Figure 3.1.2.).



Figure 3.1.2: Appearance of the road passenger vehicle after the serious accident
(view in direction of the road passenger vehicle movement, source: “NIS”a.d.)

At the time of the occurrence of this serious accident, the automatic level crossing device was faulty and the traffic at the respective level crossing was provided by a shunter employed at the Pančevo Oil Refinery (“NIS”a.d. Novi Sad).

The interruption of work on the industrial track and traffic on the state road lasted until 09.01.2020. at 04:27.

Category:	Serious accident
Fatally injured and injured:	1 fatally injured, 1 seriously injured and 1 lightly injured person (fatally injured person and injured persons were in the road passenger vehicle)
Material damage:	N/A

3.2. On the level crossing, overtaking of the train No. 45403 on the road passenger vehicle

On 25.07.2020. at 10:55 on the regional line 211: Ruma - Šabac - Junction Donja Borina - state border - (Zvornik Novi), on the level crossing, secured with road traffic signs and the zone of necessary visibility, which is located between the crossing point Štitar and the station Petlovača at km 20+647, it came to overtaking of the train No. 45403 on the road passenger vehicle of the brand Ford type Focus with license plates SM 063-DZ.

The level crossing is located on the open track, in the settlement Petlovača (municipality of Šabac). It is secured with the traffic signs on the road and the zone of necessary visibility.

Road passenger vehicle of the brand Ford type Focus with license plates SM 063-DZ was moving along the state road IIA rank, marking 136: Majur - Bogatić - Petlovača from the direction of the intersection with the state road IB rank, marking 26: Belgrade - Obrenovac - Šabac - Loznica - state border with Bosnia and Herzegovina (border crossing Mali Zvornik) in the direction to the settlement Zminjak. Upon encountering the level crossing at km 20+647, the road passenger vehicle entered the track profile in the area of the level crossing just before the train arrived.

The train No. 45403 was moving along the regional line No. 211: Ruma - Šabac - Junction Donja Borina - state border - (Zvornik Novi), from the direction of the crossing point Štitar in the direction to the station Petlovača. The train operated on the route Ruma - Brasina - Zvornik Novi (ŽRS). The train composition consisted of the train locomotive series 661-033 and 24 empty wagons of the series Eas. During the drive of the train No. 45403 on the open track between the crossing point Štitar and the station Petlovača, upon encountering the level crossing at km 20+647, it came to overtaking of the train on the road passenger vehicle, which has, just before the train arrived, entered the track profile. Overtaking occurred when the left part of the front of the train locomotive 661-033 (left bumper) hit the front right side of the road passenger vehicle (seen in the direction of the train, i.e., the road passenger vehicle).

After the overtaking, the train No. 45403 continued its movement in the length of 145 m, after which it stopped, so that the front of the 661-033 series locomotive was found at km 20+792, with the longer part of the locomotive box ahead. On that occasion, no vehicle derailed out of the composition of the train No. 45403 (see Figure 3.2.1.).



Figure 3.2.1: The appearance of the train No. 45403 after the serious accident
(view in direction opposite to the direction of train movement)

After the impact, the train threw the road passenger vehicle next to the track, to the left in relation to the direction of the train movement, after which the road passenger vehicle continued moving along the track for approximately 30 m, after which it stopped. The road

passenger vehicle was found on the left side of the track, seen in the direction of the train movement, i.e., in the direction of increasing stationing of the track, in a position parallel to the track, i.e. the train (see Figure 3.2.2.).



Figure 3.2.2: The appearance of the train No. 45403 and the road passenger vehicle after the serious accident (view in the direction of train movement)

Due to the mentioned serious accident, the traffic between the crossing point Štitar and the station Petlovača was interrupted. The interruption of traffic lasted until 16:30, when the train traffic was normalized.

Category:	Serious accident
Fatally injured and injured:	2 fatally injured, 2 seriously injured (fatally injured and injured persons were in the road passenger vehicle)
Material damage:	N/A

3.3. Derailment of the train No. 45022

On the main arterial line 102: Belgrade Center - Junction “G” - Rakovica - Mladenovac - Lapovo - Niš - Preševo - state border - (Tabanovce), during the drive between the stations Bagrdan and Jagodina, on the open track at km 123+670, it came to derailment of the train No. 45022 with the total of eight wagon-tanks of Z series. From the train composition, there derailed: fifth wagon-tank of series Zacs-z No. 33 72 7867 810-3 with two axles of the second bogie (they remained on their wheels in the track zone), seventh wagon-tank of series Zacs-z No. 33 72 7865 013-8 with all axles (they overturned on its side to the left, seen in the direction

of the train movement), eighth wagon-tank of series Zacs-z No. 33 72 7867 853-3 with all axles (overturned on its side to the left, seen in the direction of the train movement), ninth wagon-tank of series Zacs-z No. 33 72 7867 846-7 with all axles (overturned on its side to the right, seen in the direction of the train movement), tenth wagon-tank of series Zacs-z No. 33 72 7865 005-4 with all axles (remained upright, on its wheels, in the track zone, rotated for approximately 30° to the left relative to the longitudinal axis of the track, viewed in the direction of train movement), eleventh wagon-tank of series Zacs-z No. 33 72 7865 009-6 with all axles (tilted to the left for approximately 50° relative to the vertical axis of the track and rotated for approximately 20° to the right relative to the longitudinal axis of the track, viewed in the direction of train movement), twelfth wagon-tank of series Zacs-z No. 33 72 7865 010-4 with all axles (tilted to the left for approximately 40° relative to the vertical axis of the track and rotated for approximately 20° to the left relative to the longitudinal axis of the track, viewed in the direction of train movement) and thirteenth wagon-tank of the Zacs series No. 33 87 7868 736-2 with two axles of the second bogie (they remained on their wheels in the track zone).

After derailment, train crossed another 110 m approximately, after which it stopped (the exact distance could not be determined due to significant damage to the railway line and railway vehicles).

There exists material damage on the railway infrastructure and the railway vehicles.

The appearance of the accident site (the point of derailment) is shown in Figure 3.3.1.



Figure 3.3.1: The view of the accident site (the point of derailment)

Due to leakage of sulfuric acid (a substance that can endanger human health and is dangerous for the environment during uncontrolled release), members of the police and the fire and rescue brigade came to the accident site upon invitation.



Since there were no fatally injured nor injured people in this accident, there was no need to hire an emergency medical service.

Remediation of the consequences of this accident was performed by engaging professional services and resources of “IŽS“a.d. and “Srbija Kargo“a.d. with the assistance of members of the fire and rescue service.

Due to this accident, the railway traffic between the stations Bagrdan and Jagodina was interrupted. The interruption lasted until 01.12.2020. at 22:00 when the railway line was open for train traffic (the right track of the double-track railway was open for traffic and the traffic between the stations Bagrdan and Jagodina was organized in one track, on the right track).

Category: Accident
Fatally injured and injured: N/A
Material damage: Exists on the infrastructure and the railway vehicles.

3.4. On the level crossing, overtaking of the train No. 6431 on the road passenger vehicle

On 02.12.2020. at 08:15 on the main arterial line 110: Subotica - Bogojevo - state border - (Erdut), on the level crossing at km 102+890, secured with automatic half barriers with light traffic signs and traffic signs on the road, there occurred an overtaking of the train No. 6431 on the road passenger vehicle of brand Volkswagen Golf, license plate KI 045-DK.

The level crossing is located in the area of the city of Subotica, the settlement Bajmok, on the main arterial route 110: Subotica - Bogojevo - state border - (Erdut). It is secured with automatic level crossing device. At the time of occurrence of this serious accident, the automatic level crossing device was faulty (the half-barriers at the level crossing were raised and the traffic lights regulating the crossing of the road over the line at the same level were shut off).

The road passenger vehicle of brand Volkswagen Golf, license plate KI 045-DK, was moving along the state road 1B rank, marking 12: Subotica - Sombor - Odžaci - Bačka Palanka - Novi Sad - Zrenjanin - Žitište - Nova Crnja - state border with Romania (border crossing Srpska Crnja) from the direction of Sombor to Bajmok. Upon encountering the level crossing at km 102+890, whose automatic device was defective and whose half-barriers were raised, the road passenger vehicle did not stop in front of the level crossing, but continued driving and entered the track profile in the area of the level crossing, just before the arrival of train No. 6431.

The train No. 6431 was moving from the direction of Bajmok station in the direction of Aleksa Šantić station. Train No. 6431 consisted of DMV 711-033/034. In DMV 711-033/034, in addition to the train driver, there were also two conductors, all employees of the railway undertaking “Srbija Voz“a.d. Upon encountering the level crossing at km 102 + 890, there occurred overtaking of the train No. 6431 on a road passenger vehicle, which entered the track profile immediately before the train arrived. The collision occurred when the right part of the

forehead DMV 711-034 (front right bumper) hit the front and central left part of the side of the road passenger vehicle (seen in the direction of train No. 6431 movement, i.e. road passenger vehicle).

After overtaking, train No. 6431 continued its movement in the length of 165 m, after which it stopped. Due to the force of the impact, the road passenger vehicle crawled under the DMV 711-034 head (driver's cab), i.e. it remained stuck in the part between the DMV bumper and the track. On that occasion, the entire front part of the road passenger vehicle was significantly damaged (Figure 3.4.1. and 3.4.2.).



Figure 3.4.1: Appearance of DMV 711-033/034 and the road passenger vehicle after the serious accident (view from the free space between the railway line and the road, source: “IŽS”a.d.)



Figure 3.4.2: Appearance of the road passenger vehicle after the serious accident (view from the railway line, in the direction opposite from the direction of train movement, source: “IŽS”a.d.)



In this serious accident, one person was fatally injured (a person who was in the driver's seat in a road passenger vehicle).

Due to the mentioned serious accident, the traffic was interrupted between the stations Bajmok and Sombor. The interruption lasted until 13:07, when regular train traffic was established.

Category: Serious accident
Fatally injured and injured: 1 fatally injured
(fatally injured was in road passenger vehicle)
Material damage: Exists on the railway vehicles

4. REPORTS ON INVESTIGATIONS COMPLETED IN 2020

4.1. Jumping of the railway worker from the train No. 432 in motion

4.1.1. Short description of the accident

On 25.06.2019. at 06:17 at km 14+169 of the main arterial route E70/E85: Belgrade - Mladenovac - Lapovo - Niš - Preševo - state border - (Tabanovce), during the passage of the train No. 432, of the railway undertaking "Srbija Voz" a.d., through the station Resnik, during the train drive through the third station track in the direction towards the station Rakovica, on the section of the third track near the covered part of the second station platform, located between the third and fourth station track, from the train locomotive 441-604 from the train No. 432 it came to jumping of the railway worker the train driver employed at railway undertaking "Srbija Kargo" a.d. The railway worker the train driver has, out of the train locomotive 441-604 which was in motion, jumped through the door of the engine compartment on the left side of the train locomotive (viewed in direction of the train movement), jumped in the direction of the second station platform and fell into the space between the second station platform and the third station track, that is, between the second station platform and the train in motion. On that occasion, he sustained serious injuries from the train in motion, from which he died on the spot.



Figure 4.1.1.1: The appearance of the point of jumping
(view from the direction of the station facility - of the first station track)



Figure 4.1.1.2: The appearance of the site where the train No. 432 stopped after the serious accident

The train No. 432 operated regularly on the route Bar - Topčider. The train composition consisted of the train locomotive of the railway undertaking “Srbija Voz“a.d. of series 441-604 and 10 (ten) wagons for transport of passengers. The train has, through the station Resnik, passed within the regular drive route.

The dead railway worker, the train driver employed at the railway undertaking “Srbija Kargo“a.d. was in the train locomotive 441-604 of the train No.432 of the railway undertaking “Srbija Voz“a.d. for transportation to work (for the purpose of coming to work).

The appearance of the serious accident- jumping of the railway worker- site from the train No. 432 is shown in Figure 4.1.1.1.

Due to this serious accident the members of MUP RS, Police Department for the city of Belgrade, members of the VJT in Belgrade and members of the Institute for Emergency Medical Assistance in Belgrade came to the site.

In this serious accident there was no material damage on the railway vehicles, infrastructure and the assets of the third parties.

Due to this serious accident, there was no interruption of railway traffic.

Category: Serious accident
Fatally injured and injured: 1 fatally injured
Material damage: N/A



4.1.2. The causes of the serious accident determined by investigation

Direct and immediate cause of the occurrence of this serious accident is that the train driver employed at the railway undertaking "Srbija Kargo" a.d., who was found in the train locomotive 441-604 of the train No. 432 of the railway undertaking "Srbija Voz" a.d., had exited from the train locomotive while the train was moving, thus creating a dangerous situation related to the occurrence of this serious accident.

The train driver employed at the railway undertaking "Srbija Kargo" a.d. who was travelling to work, was not entitled to travel in the driver's cab of the train locomotive 441-604 of the train No. 432 of the railway undertaking "Srbija Voz" a.d., under no criteria defined in the Rulebook 2, Traffic Rulebook ("Official Gazette ZJŽ" No. 3/94, 4/94, 5/94, 4/96 и 6/03) and 243 Rulebook for traction of trains on JŽ ("Official Gazette ZJŽ" No. 6/91).

"Srbija Kargo" a.d. has issued to the train driver (fatally injured in this serious accident) in accordance with the Labour Law ("Official Gazette RS" No. 24/2005, 61/2005, 54/2009, 32/2013, 75/2014, 13/2017 - decision of the US, 113/2017 and 95/2018 - authentic interpretation) issued Decision on commuting, according to which the driver was entitled to reimbursement of bus transportation expenses so that driving in the driver's cab of another railway undertaking cannot be considered a regular journey from the place of residence to the place of work.

4.1.3. Issued safety recommendations

CINS has no safety recommendations for this serious accident.

4.2. On the level crossing, overtaking of the shunting composition MS-4 on the road passenger vehicle

4.2.1. Short description of the serious accident

On 09.01.2020. at 02:35 on the industrial track of Oil Refinery Pančevo ("NIS" a.d. Novi Sad) on the level crossing at km 2+231 secured with automatic level crossing device, it came to overtaking of the shunting composition MS-4 on the road passenger vehicle of brand Renault type Kangoo of license plates PA 086-LŠ.



Figure 4.2.1.1: The appearance of the shunting composition locomotive 661-155 after the serious accident (view in the direction of road passenger vehicle, source: “NIS”a.d.)

Road passenger vehicle of the brand Renault type Kangoo of license plates PA 086-LŠ, was moving along the state road 1B rank, No. 14.: Pančevo - Kovin - Ralja - connection with the state road 33 which passes through the settlement of Stara Misa (St. Bavaništanski put in Pančevo), from the direction of the center of Pančevo to Kovin. Upon encountering the level crossing at km 2+231 of the own stationing of industrial track of Oil Refinery Pančevo (“NIS”a.d. Novi Sad), the road passenger vehicle did not stop in front of the level crossing, but continued driving and entered the profile of the track just before the MS-4 shunting composition arrived.

Shunting composition MS-4 was moving along the industrial track of the Oil Refinery Pančevo (“NIS”a.d. Novi Sad), from the direction of Marshalling Yard of Oil Refinery Pančevo to the direction of the station Pančevo Varoš. The shunting composition MS-4 consisted of shunting locomotive 661-155 and 21 (twenty-one) wagon-tanks of the series Za loaded with oil derivatives (motor gasoline and eurodiesel). By approaching the level crossing at km 2+231 of the own stationing of the industrial track, it came to overtaking of the shunting composition MS-4 on the road passenger vehicle, which just before encountering the shunting composition, had entered the profile of the track. The overtaking occurred in a manner that right part of the front of the shunting locomotive 661-155 (front right bumper) hit the front right part of the side of the road passenger vehicle (viewed in the direction of driving of the shunting composition MS-4, that is, road passenger vehicle).

Upon overtaking, the shunting composition MS-4 continued further moving in the length of 12 m, after which it stopped (Figure 4.2.1.1.).

After the collision, the shunting composition MS-4 threw the road passenger vehicle to the right side in relation to the direction of movement of the shunting composition MS-4, i.e., to the left side in relation to the direction of movement of the road passenger vehicle, in the next road lane, upon which the road passenger vehicle rotated 90°. On that occasion, the right side of the road passenger vehicle was significantly damaged (Figure 4.2.1.2.).



Figure 4.2.1.2: The appearance of the shunting locomotive 661-155 and the road passenger vehicle after the serious accident (view from the road in the direction opposite of the road passenger vehicle movement direction, source: "NIS"a.d.)

At the time of the occurrence of this serious accident, the automatic level crossing device was faulty and the traffic at the respective level crossing was provided by a shunter employed at the Pančevo Oil Refinery ("NIS"a.d. Novi Sad).

In this serious accident, one person was fatally, one person was seriously injured and one person was lightly injured. Fatally injured and injured persons were in the road passenger vehicle.

Due to this serious accident, members of the MUP RS, PU in Pančevo, the Traffic Police Department in Pančevo, the Traffic Police Office in Pančevo, members of the MUP RS, the Sector for Emergency Situations, Fire and Rescue Unit of Pančevo, members of the Emergency Medical Service of the Pančevo Health Center and members of the OJT Pančevo came to the site.

In this serious accident there were no damages to the railway vehicles and infrastructure.

Due to the occurrence of this serious accident, the interruption of work on the industrial track and traffic on the state road lasted until 09.01.2020. at 04:27.

Category:	Serious accident
Fatally injured and injured:	1 fatally injured, 1 seriously injured and 1 lightly injured person (fatally injured person and injured persons were in the road passenger vehicle)
Material damage:	N/A

4.2.2. The causes of the serious accident determined by investigation

Direct and immediate cause of the occurrence of this serious accident is that before the occurrence of the respective serious accident the road passenger vehicle was found on the track, just before the arrival of the shunting composition MS-4, by which the dangerous situation, related to the occurrence of this serious accident, was created.

The direct cause of a serious accident is non-compliance with the provisions of Articles



100, 132 and 187 of 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) by the road passenger vehicle driver.

Considering that it was determined that the failure of the SS device at the level crossing lasted longer than 84 hours, according to the Article 36 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), the owner of the industrial track and the road infrastructure manager were obliged to take all the necessary measures to indicate that the semi-barriers and traffic lights were not valid for participants in road traffic. It should be borne in mind that the road infrastructure manager of the JP “Putevi Srbije” was not informed about the failure of the SS device at the level crossing by the owner of the industrial track of the Pančevo Oil Refinery “NIS”a.d. Novi Sad. The obligation to cover light signals that apply to road vehicles that due to failure can not signal prohibited driving over the level crossing also exists according to the provisions of Article 58 under 6 of Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03), and which, in accordance with 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.), is in use in the Pančevo Oil Refinery (“NIS”a.d. Novi Sad). Failure to act in this manner could have contributed to the occurrence of this serious accident.

General Order I (S-20) No. 44 of 09.01.2020., issued by the train dispatcher of the station Pančevo Varoš for shunting compositions MS-3/MS-4, the driver of the shunting locomotive 661-155 of shunting composition MS-4 was not given notice of failure of the SS level crossing device at km 2+231 of own stationing of the industrial track of the Pančevo Oil Refinery (“NIS”a.d. Novi Sad) and no order or instruction was given on the procedure when crossing this level crossing because the Pančevo Varoš station was not informed about the failure of the level crossing device by the Pančevo Oil Refinery (“NIS”a.d. Novi Sad), as well as by the train drivers of the shunting composition of the railway undertaking “Srbija Kargo”a.d. who served the industrial track from 02.01.2020. when SS level crossing device failed (CINS has no evidence that the train drivers of the shunting compositions of the railway undertaking “Srbija Kargo”a.d. informed the Pančevo Varoš station and the Marshalling Yard of the Pančevo Oil Refinery about the failure of the device at the level crossing in a proven manner). Pursuant to the Provisions of Article 63 of Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03), the train driver was obliged to respect the aspect of a signal that showed the control signal KS 2 and to stop the shunting composition MS-4 in front of the level crossing. Failure to act in this manner could have contributed to the occurrence of this serious accident.

The sent worker - the on-duty shunter of the Pančevo Oil Refinery (“NIS”a.d. Novi Sad) was at the level crossing at the level of km 2+231, dressed in a fluorescent suit and equipped with a hand-held flashlight and stopped the participants in road traffic by showing manual traffic signs with a hand-held flashlight with a white flashing light. Pursuant to Article 58 of Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03), 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) and item 6.6.10.2. of the Act on the industrial track of the Marshalling Yard in the Pančevo Oil Refinery, the procedure or manner of giving aspects of a signal for vehicles in road traffic in case of device failure at the level crossing is defined. Giving manual traffic signs with white instead of red light could have contributed to the occurrence of the respective serious accident. Also, giving manual traffic signs with a hand-held flashlight with



a white flashing light by a sent worker - on-duty shunter of the Pančevo Oil Refinery (“NIS” a.d. Novi Sad) could have caused confusion among the train driver and train driver assistant. 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.) in Point 2.3.13.1.2. it is stated that the level crossing at km 2+231 is equipped with road barrier and a red calm light in the middle of the barrier (which does not correspond to the situation on the ground, semi-barriers are installed) and that the mentioned level crossing permanently occupied by the shunter of the Marshalling Yard station upon passing of the shunting composition. In the same point, it is stated that for the use of this level crossing, 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. is being used (Registration No. 1/2018) - Annex 14 of the Industrial Track Act (hereinafter: The Instruction). Also, in Item 6.6.10.3. of the Industrial Track Act, it is stated that the organization of the work of the level crossing is performed according to the Instruction. In point 5.1.1. of the Instructions it is stated that this level crossing is possessed by a sent worker only in case of failure of the SS device at the level crossing. The inconsistency of the above provisions could have caused confusion to the train driver and train driver assistant of the MS-4 shunting composition in terms of proper conduct.

4.2.3. Issued safety recommendations

To the Directorate for Railways:

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).

SR_02/20 Pančevo Oil Refinery (“NIS” a.d. Novi Sad) to train the staff of the Marshalling Yard of the Pančevo Oil Refinery in terms of consistent compliance with the established procedure in item 5.1.2. 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), and notifying the Manager of Public Railway Infrastructure “IŽS” a.d., in this case the monitoring station in which the industrial track is connected, i.e. the station Pančevo Varoš, about the malfunction of the level crossing device, that is, on the exceptional invalidity of the control signal and securing the level crossing by the level crossing keeper, all in order to timely inform the train staff (issuance of the General Order by the train dispatcher of the station Pančevo Varoš “IŽS” a.d.) on the procedure in front of the level crossing, pursuant to Article 34, item 29. Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03).



- SR_03/20** Pančevo Oil Refinery (“NIS”a.d. Novi Sad) to train the staff of the Marshalling Yard of the Pančevo Oil Refinery regarding compliance with the provisions of Article 58, item 6 of Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03), as well as the provisions of item 6.6.10.2. 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.), which refer to manual aspects of a signal given to participants in road traffic by the level crossing keeper.
- SR_04/20** Pančevo Oil Refinery (“NIS”a.d. Novi Sad) to, in the capacity of railway infrastructure manager, establish cooperation with the road manager of JP “Putevi Srbije” and conclude an Agreement which regulates more closely the relations regarding the respective level crossing in accordance with the provisions of Articles 67 and 70 of the Law on Railways (“Official Gazette of RS” No. 41/2018).
- 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”.
- SR_06/20** “Srbija Kargo”a.d. to conduct the training of the traction vehicle staff regarding the procedure in front of the level crossing equipped with control signals, pursuant to Article 143, Paragraph 2 of the Rulebook on types of signals, signal markings and markings on the railway track (“Official Gazette of RS” No. 51/20), and Article 61, Item 12 and Article 63, Item 5 of the Rulebook 2, Traffic Rulebook (“Official Gazette of the ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03).
- 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).

Ministry of Construction, Traffic and Infrastructure:

- SR_08/20** JP “Putevi Srbije” to, in the capacity of the road infrastructure manager, establish cooperation with the railway infrastructure manager of the Pančevo Oil Refinery (“NIS”a.d. Novi Sad) and conclude an Agreement which regulates more closely the relations regarding the respective level crossing, in accordance with the provisions of Articles 67 and 70 of the Law on Railways (“Official Gazette of RS” No. 41/2018).



SR_09/20 JP “Putevi Srbije” to, in the capacity of the road infrastructure manager, on the level crossing at km 2+231 of the industrial track of the Pančevo Oil Refinery (“NIS” a.d. Novi Sad) harmonize the installed road signalization with the valid regulations on road signalization.

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).



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 10 (ten) safety recommendations in 2020. 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 82 (eighty-two) safety recommendations issued by CINS in 2017, 2018, 2019 and 2020, 65 (sixty-five) safety recommendations (79,27%) were issued to Directorate for Railways, and to the other bodies and organizations were issued 17 (seventeen) safety recommendations (20,73%).

The table 5.1. shows issued safety recommendations per years.

Table 5.1: Issued safety recommendations

Year	Directorate for Railways		Other bodies and organizations		Total	
	[No.]	[%]	[No.]	[%]	[No.]	[%]
2017.	6	85.71	1	14.29	7	100.00
2018.	28	84.85	5	15.15	33	100.00
2019.	24	75.00	8	25.00	32	100.00
2020.	7	70.00	3	30.00	10	100.00
Total	65	79.27	17	20.73	82	100.00

The table 5.2. shows the status of issued 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.	4	57.14	1	14,29	2	28.57	7	100.00
2018.	17	51.52	11	33,33	5	15.15	33	100.00
2019.	13	40.62	9	28,13	10	31.25	32	100.00
2020.	5	50.00	4	40.00	1	10.00	10	100.00
Total	39	47.56	25	30.49	18	21.95	82	100.00



The table 5.2.1. shows the status of safety recommendations issued to Directorate for Railways by years.

Table 5.2.1: Safety recommendations issued to 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.	4	66.66	1	16.67	1	16.67	6	100.00
2018.	17	60.72	10	35.71	1	3.57	28	100.00
2019.	7	29.17	8	33.33	9	37.50	24	100.00
2020.	4	57.14	3	42.86	-	-	7	100.00
Total	32	49.23	22	33.85	11	16.92	65	100.00

The tables 5.2.2. и 5.2.3. show the status of safety recommendations issued to other bodies and organisations by years, and the Table 5.2.2. shows the status of safety recommendations issued to MGSI, while the Table 5.2.3. shows the status of issued safety recommendations to other bodies and organisations.

Table 5.2.2: 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.	-	-	-	-	1	100.00	1	100.00
2018.	-	-	-	-	4	100.00	4	100.00
2019.	5	90.00	1	10.00	-	-	6	100.00
2020.	1	33.33	1	33.33	1	33.33	3	100.00
Total	6	42.86	2	14.28	6	42.86	14	100.00



Table 5.2.3: Safety recommendations issued to other bodies and organisations - 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.	-		1	100.00	-		1	100.00
2019.	1	50.00	-		1	50.00	2	100.00
2020.	-	-	-	-	-	-	-	-
Total	1	33.33	1	33.33	1	33.33	3	100.00

Due to the series of accidents on the level crossings in 2017, 2018 and 2020. due to importance of the issue, CINS has, with the aim of possible improvement of safety on the railway and prevention of occurrence of the new accidents issued to Directorate for Railways safety recommendations SR_11/18 and SR_30/19 as well as SR_13/18 and SR_31/19 (that are identical and refer to "IŽS"a.d.), SR_01/20, SR_04/20 and SR_05/20 (that refer to "NIS"a.d. Novi Sad) and SR_07/20 (that refers to "Srbija Kargo"a.d.) and MGSJ (SR_09/18, SR_24/19, SR_25/19, SR_26/19, SR_27/19, SR_28/19, SR_29/19 and SR_10/20). All the aforementioned safety recommendations have not yet been executed.

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. 340-439-2/2019 of 12.04.2019., safety recommendation SR_01/17 has not been accepted.

The Railway Directorate submitted a Report - Letter I-01 No. 340-834/2021 dated 27.07.2021. in which it is stated that the recommendation has been accepted, implementation is underway and that the Rulebook is in the legislation. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08.2021. in the attachment when the Draft Rulebook on maintenance of the super and sub structure of railway line and the Rulebook on technical conditions of infrastructure subsystems that are in the legislation were submitted. The draft Rulebook on technical conditions of infrastructure subsystems gives limit



values of parameters, but it is still stated that speed reduction is a way to reduce the risk of derailment. Safety recommendation SR_01/17 is accepted and in realization.

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. 340-439-2/2019 of 12.04.2019., safety recommendation SR_02/17 has not been accepted.

The Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 dated 27.07.2021. in which it is stated that the recommendation has been accepted, implementation is underway and that the Rulebook is in the legislation. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08. 2021. in the attachment when the Draft Rulebook on maintenance of the super and sub structure of railway line and the Rulebook on technical conditions of infrastructure subsystems that are in the legislation were submitted. The drafts of these two Rulebooks do not define the criteria for the periods in which the overhauls on the upper machine must be performed, as clearly defined in this recommendation.

SR_03/17 “IŽS” a.d. shall amend the Guidelines on the Unique Criteria for the Control of the Condition of Railway Lines on the Network of Yugoslav Railways, Guidelines 339 (“Official Gazette of ZJŽ” No. 2/2001 and 4/2004), which is, by the Decision of “IŽS” a.d., No. 4/2015-51-17 from 29.12.2015. still into force in “IŽS” a.d., in accordance with provisions from the Guidelines 339 from 1989., mentioned in point 3.3.5. For future measuring wagons, recommended parameters are in accordance with the Standards: SRPS EN 13848-1, SRPS EN 13848-2, SRPS EN 13848-6.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 dated 27.07.2021., safety recommendation SR_03/17 is in realisation. Based on the submitted evidence, it can be stated that the deadline for the execution of the recommendation has been extended on several occasions, but the procedure for adopting amendments to Instruction 339 has not been carried out in accordance with the issued safety recommendation. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019. Directorate for Railways submitted an amendment to the Report - Letter I-01 number 340-942/2021 dated 27.08.2021. in the attachment when the evidence was submitted that the Directorate for Railways during the supervisory audits performed in 2020. and 2021. ordered the measures of “IŽS“ a.d. in order to implement the safety recommendation.

SR_04/17 “IŽS” a.d. shall prescribe in its internal documents that, if during the measurement using the measuring wagon, there is a disorder in the continuity of the measurement, the control of the superstructure parameters must necessarily be carried out at the site of the resulting disturbance and in the zone for which data are missing. The control aims to eliminate the cause of the measurement disorder and to check the condition of the superstructure, visual control and measurement



of the superstructure parameters with alternative measuring devices. After removing the cause of the disorder, it is necessary to repeat the measurement with measuring wagon on that kilometre.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation is in realization. On the basis of the submitted evidence, it can be stated that no measurements were made with the track inspection coach during 2020. and 2021. due to the failure of the track inspection coach. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019.

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 the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_05/17 is in the process of realization. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019.

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. 340-834/2021 of 27.07.2021., safety recommendation SR_02/18 is in the process of realization.

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 for the preparation 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. 340-834/2021 of 27.07.2021., safety recommendation SR_03/18 is in the process of realization. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2018.



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. 340-834/2021 of 27.07.2021., safety recommendation SR_05/18 is in the process of realization. The Directorate for Railways did not submit a Report in 2020, that is, the evidence that were submitted to them by Letter No. 1/2020-534 of 18.05.2020. of “Srbija Voz” a.d.

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. 340-834/2021 of 27.07.2021., safety recommendation SR_06/18 is in the process of realization. The Directorate for Railways did not submit a Report in 2020, that is, the evidence that were submitted to them by Letter No. 1/2020-534 of 18.05.2020. of “Srbija Voz” a.d.

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. 340-834/2021 of 27.07.2021., safety recommendation SR_07/18 is in the process of realization. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2018.



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 rolling stock, or if 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:

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

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

Status of the recommendation: MGSI has not submitted a response to the Annual Report for 2020.

The status of the recommendation SR_09/18 is not changed relating to the Annual Report for 2018. The safety recommendation SR_09/18 is partly accepted (the part relating to the speed of crossing of the road vehicle over the crossing is 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 No. 340-834/2021 of 27.07.2021., safety recommendation SR_10/18 is in the process of realization. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019.

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-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_11/18 is in the process of realization (the adoption of the methodology for risk assessment at road crossings is still in progress).

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. 340-834/2021 of 27.07.2021., safety recommendation SR_13/18 is accepted (realization of safety recommendation SR_13/18 is possible only after recommendation SR_11/18 is executed).

SR_14/18 “Srbija voz” a.d. that during the conduction of investigation of traffic accidents on the crossings, research committees should pay more attention to collecting relevant data, so that all the possible causes of the accident could be established, and with the goal of applying suitable measures.

Status of the recommendation: Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_14/18 is executed.

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, and 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. 340-834/2021 of 27.07.2021., safety recommendation SR_18/18 is accepted and in realization. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08.2021. in the attachment when the Draft Rulebook on maintenance of the super and sub structure of railway line and the Rulebook on technical conditions of infrastructure subsystems that are in the legislation were submitted. The drafts of these two Rulebooks did not take into account all the suggestions made by CINS in letter No. 33 No. 340-00-9180/2017-31 of 13.11.2020. which was submitted to the Directorate for Railways.

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 analyze 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. 340-834/2021 of 27.07.2021., safety recommendation SR_20/18 is in realization. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019.

SR_21/18 JP “EPS” branch TENT that in future purchases of new vehicles for their fleets require the vendor delivering vehicles compliant with the current technical regulations, in order to avoid the risk of obtaining the decision to deny a license for the vehicle type.

Status of the recommendation: Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_21/18 is executed.

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 upper 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. 340-1052/2019 of 29.07.2019., safety recommendation SR_23/18 is not accepted.

Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., in which it was stated that the recommendation is accepted and executed, but no evidence has been submitted. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08.2021. in the attachment when the Draft Rulebook on maintenance of the super and sub structure of railway line and the Rulebook on technical conditions of infrastructure subsystems that are in the legislation were submitted. The draft Rulebook on technical conditions of infrastructure subsystems gives limit values of parameters, but it is still stated that speed reduction is a way to reduce the risk of derailment. Safety recommendation SR_23/18 is accepted and in realization.

SR_24/18 “IŽS“a.d. to make amendments to the Instruction on common criteria for control of the condition of railway track on the network JŽ, Instruction 339 (“Official Gazette of ZJŽ” No.2/2001 and 4/2004), which with the decision of the “IŽS“a.d. No.4/2015-51-17 from 29.12.2015. is still applicable in “IŽS“a.d., in accordance with the provisions of Instruction 339 of 1989 which are listed in paragraph 3.3.4. For future track examination coaches’ parameters in accordance with standards: EN 13848-1, EN 13848-2, EN 13848-6 are recommended.

Status of the recommendation: Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_24/18 is in realization. Based on the submitted evidence, it can be stated that the deadline for the execution of the recommendation has been extended on several occasions, but the procedure for adopting amendments to Instruction 339 has not been carried out in accordance with the issued safety recommendation. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08.2021. in the attachment when the evidence was submitted that the Directorate for Railways during the supervisory audits performed in 2020. and 2021. ordered the measures to “IŽS“a.d. in order to implement the safety recommendation.

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 Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_25/18 is in realization (train traffic risk assessment has not even begun).



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. 39/16 and 74/16) 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. 340-1052/2019 of 29.07.2019. safety recommendation SR_27/18 is not accepted.

Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., in which it was stated that the recommendation is accepted and executed, but no evidence has been submitted. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08.2021. in the attachment when the Draft Rulebook on maintenance of the super and substructure of railway line and the Rulebook on technical conditions of infrastructure subsystems that are in the legislation were submitted. The draft Rulebook on technical conditions of infrastructure subsystems gives limit values of parameters, but it is still stated that speed reduction is a way to reduce the risk of derailment. Safety recommendation SR_27/18 is accepted and in realization.

SR_28/18 “IŽS”a.d. to conduct amendments to the Instruction on unique criteria for control of the condition of railway tracks on the network JŽ, Instruction 339 (“Official Gazette of RS”, No.2/2001 and 4/2004), which is by the decision of the “IŽS”a.d. No. 4/2015-51-17 from 29.12.2015. is still applicable in “IŽS”a.d., pursuant to the provisions of Instruction 339 of 1989 which are listed in clause 3.3.5. For future track inspection coaches, the parameters are recommended in accordance with standards: SRPS EN 13848-1, SRPS EN 13848-2, SRPS EN 13848-6.

Status of the recommendation: Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021. safety recommendation SR_28/18 is in realization. Based on the submitted evidence, it can be stated that the deadline for the execution of the recommendation has been extended on several occasions, but the procedure for adopting amendments to Instruction 339 has not been carried out in accordance with the issued safety recommendation. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019. The Directorate for Railways submitted an amendment to the Report - Letter I-01 No. 340-942/2021 dated 27.08.2021. in the attachment when the evidence was submitted that the Directorate for Railways during the supervisory audits performed in 2020. and 2021. ordered the measures to “IŽS”a.d. in order to implement the safety recommendation.

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. 340-834/2021 of 27.07.2021., safety recommendation SR_29/18 is in realisation (train traffic risk assessment has not even begun).

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. 340-834/2021 of 27.07.2021., safety recommendation SR_30/18 is in realization (the procedures and criteria for approving the traffic of trains with an overload have not been reviewed in order to limit this procedure only to exceptional and rare individual occasions).

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. 340-834/2021 of 27.07.2021., safety recommendation SR_02/19 is accepted and in realization.

SR_03/19 “Srbija Voz”a.d. to perform the checks and tests, not only of the parts on the DMK series 710 that are relevant to safety, but also those parts of the fault frequency higher than the ones that are defined by the manufacturer that can affect the availability of the vehicle.

Status of the recommendation: Directorate for Railways submitted the Report - a Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_03/19 is not accepted.

SR_04/19 “Srbija Voz”a.d. that, given the long exploitation period of DMK series 710, carry out technological research related to the joint work of the diesel engine - hydrodynamic transmitter - the cooling system in order to identify lacks and on the basis of them implement appropriate improvements of the drive system (replacement of the kind of coolant, check the capacity of the heat exchanger - cooler, etc.) in order to prevent failures that could lead to occurrence of the new accidents.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No.



340-834/2021 of 27.07.2021., the safety recommendation SR_04/19 is not accepted.

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 a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., the safety recommendation SR_06/19 is accepted and in realization.

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 fulfillment of conditions for issuing safety certificates for transport.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., the safety recommendation SR_07/19 is accepted. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019.

5.3.2. Investigation Report (ŽS-02/18) No.: 340-00-1/2018-02-1-31 of 26.03.2019. (serious accident, overtaking of the locomotive CEM-7, owned by JP “EPS” branch TENT from Obrenovac, on the worker of “Inter-Mehanika” d.o.o. from Skorenovac on 13.04.2018. at 13:30 in the area of the industrial railway JP “EPS” branch TENT, at the station Obrenovac on the track depot No. 10d)

SR_08/19 JP “EPS” branch TENT from Obrenovac to conduct the amendment of the procedure, QP.0.14.05 edition 11 from 25.04.2018., in the part 3.1. General, Paragraph 7 (which in this part is identical to the procedure QP.0.14.05 edition 10 from 22.01.2018., and that was valid at the time of occurrence of the respective serious accident), with detailed content of the description of the procedure regarding the dangers and damages in railway traffic that the instructor for BZR and ZOP from Training Department or the Person for Health and Safety at TENT or surveillance body uses when he introduces the employees of the contractor of works and predicts the manner of check of the employees of the contractor of works or to create a special procedure that defines this.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., the safety recommendation SR_08/19 is partly executed that is, the procedure has been extended only to the content of the description regarding hazards and harms in railway traffic.

SR_12/19 Ministry of Labor, Employment, Veteran and Social Affairs of RS, Labor Inspectorate to carry out additional inspection within its competences in terms of fulfillment of conditions under Article 9 of the Regulation on Safety and Health on Temporary or Mobile Construction Sites (“Official Gazette of RS” 14/2009 and



95/2010), where the investor (JP “EPS” branch TENT from Obrenovac) was obliged to carry out application of the construction site on the form in Annex 3 “Construction site registration” and appoints the coordinator for execution of works.

Status of the recommendation: Ministry of Labor, Employment, Veteran and Social Affairs of RS, Labor Inspectorate did not submit a response to the Annual Report for 2020. The status of safety recommendation SR_12/19 is not changed in relation to the Annual Report for 2019. It cannot be determined whether measures have been taken on the basis of issued safety recommendation SR_12/19.

SR_13/19 Ministry of Labor, Employment, Veteran and Social Affairs of RS, Labor Inspectorate that upon application of future works by the employer-investor (JP “EPS“ branch TENT from Obrenovac) to carry out the inspection within its authorities, and with the aim of reducing the possible similar accidents.

Status of the recommendation: Ministry of Labor, Employment, Veteran and Social Affairs of RS, Labor Inspectorate did not submit a response to the Annual Report for 2020. The status of safety recommendation SR_13/19 is not changed in relation to the Annual Report for 2019. The safety recommendation SR_13/19 is accepted.

5.3.3. 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_17/19 “IŽS” a.d. to perform the procurement and installation of the missing and due to technical malfunctioning of the off track auto-stop devices on the railway section Resnik - Velika Plana, as well as to see the possibility of the installation of the track balises and on other exit signals that are not on the main transit station tracks.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_17/19 is executed.

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 a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_18/19 is in realization.

SR_19/19 “IŽS” a.d. when, due to weather conditions or some other reason, an interruption in the operation of the TK device occurs, it shall dispose stations by the train dispatchers whose signals are considered unusable after the interruption in the operation of the TK device.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No.



340-834/2021 of 27.07.2021., safety recommendation SR_19/19 is executed.

SR_21/19 “Srbija Voz” a.d. to perform the quality additional training of the train drivers with the aim of proper handling of traffic regulation in the cases of interferences on SS devices and interferences on communication means.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_21/19 is executed.

SR_22/19 “Srbija Voz” a.d. to form a Human Factor Assessment Team for Occurrence of Accidents and Incidents in order to Develop Critical Elements Models by classifying them according to the importance and ranking list of representation (identification of all risks) in order to work on the prudent structuring of preventive measures and anticipation of human behavior in crisis situations in order to reduce the impact on the emergence of new accidents and incidents.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_22/19 is executed.

SR_23/19 “Srbija Kargo” a.d. to form a Human Factor Assessment Team for Occurrence of Accidents and Incidents in order to Develop Critical Elements Models by classifying them according to the importance and ranking list of representation (identification of all risks) in order to work on the prudent structuring of preventive measures and anticipation of human behavior in crisis situations in order to reduce the impact on the emergence of new accidents and incidents.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_23/19 is accepted. No evidence was submitted that activities were carried out on the implementation of the safety recommendation in relation to the Annual Report for 2019.

5.3.4. 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 Medurovo)

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 did not submit a response for the Annual Report for 2020.



The status of safety recommendation SR_24/19 has not changed in relation to the Annual Report for 2019. Safety recommendation SR_24/19 is 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 did not submit a response for the Annual Report for 2020.

The status of safety recommendation SR_25/19 has not changed in relation to the Annual Report for 2019. 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 did not submit a response for the Annual Report for 2020.

The status of safety recommendation SR_26/19 has not changed in relation to the Annual Report for 2019. 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 did not submit a response for the Annual Report for 2020.

The status of safety recommendation SR_27/19 has not changed in relation to the Annual Report for 2019. Safety recommendation SR_27/19 is accepted.

SR_28/19 Ministry of Construction, Transport and Infrastructure that makes amendments to



the Rulebook on traffic signalling (“Official Gazette of RS”, No. 85/17) which would allow the instalment of traffic sign II-2: “Obligation of stopping”, and in front of the crossing of the road over the track in the level, with the purpose of stopping the occurrence of the new similar accidents and improvement of traffic safety.

Status of the recommendation: MGSI did not submit a response for the Annual Report for 2020.

Having in mind that the Rulebook on traffic signalization was published (“Official Gazette of RS”, No. 85 of 21.09.2017, 14 of 17.02.2021), CINS stated that SR_28/19 was executed.

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 did not submit a response for the Annual Report for 2020.

The status of safety recommendation SR_29/19 has not changed in relation to the Annual Report for 2019. Safety recommendation SR_29/19 is accepted.

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: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_30/19 is in realization (the adoption of the methodology for risk assessment at road crossings is still in progress).

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: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_31/19 is accepted (implementation of safety recommendation SR_31/19 is possible only after the implementation 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: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., in which it is stated that the consent of the Directorate for Railways was obtained to make changes to the Act on the industrial track of the Marshalling Yard in the Pančevo Oil Refinery and the Instructions for operation of automatic traffic control devices at the level crossing at km 2 + 231. CINS agrees with the new text of item 2.3.13.1.2. Act on the industrial track of the Marshalling Yard in the Pančevo Oil Refinery. Bearing in mind that the Directorate of Railways did not provide evidence that the consent was given in an appropriate manner, CINS concluded that safety recommendation SR_01/20 is in realization.

SR_02/20 Pančevo Oil Refinery (“NIS” a.d. Novi Sad) to train the staff of the Marshalling Yard of the Pančevo Oil Refinery in terms of consistent compliance with the established procedure in item 5.1.2. 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), and notifying the Manager of Public Railway Infrastructure “IŽS” a.d., in this case the monitoring station in which the industrial track is connected, i.e. the station Pančevo Varoš, about the malfunction of the level crossing device, that is, on the exceptional invalidity of the control signal and securing the level crossing by the level crossing keeper, all in order to timely inform the train staff (issuance of the General Order by the train dispatcher of the station Pančevo Varoš “IŽS” a.d.) on the procedure in front of the level crossing, pursuant to Article 34, item 29 Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03).

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_02/20 is executed.



SR_03/20 Pančevo Oil Refinery (“NIS” a.d. Novi Sad) to train the staff of the Marshalling Yard of the Pančevo Oil Refinery regarding compliance with the provisions of Article 58, item 6 of Rulebook 2, Traffic Rulebook (“Official Gazette of ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03), as well as the provisions of item 6.6.10.2. 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.), which refer to manual aspects of a signal given to participants in road traffic by the level crossing keeper.

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_03/20 is executed.

SR_04/20 Pančevo Oil Refinery (“NIS” a.d. Novi Sad) to, in the capacity of railway infrastructure manager, establish cooperation with the road manager of JP “Putevi Srbije” and conclude an Agreement which regulates more closely the relations regarding the respective level crossing in accordance with the provisions of Articles 67 and 70 of the Law on Railways (“Official Gazette of RS” No. 41/2018).

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_04/20 is in realization.

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: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_05/20 is in realization.

SR_06/20 “Srbija Kargo” a.d. to conduct the training of the traction vehicle staff regarding the procedure in front of the level crossing equipped with control signals, pursuant to Article 143, Paragraph 2 of the Rulebook on types of signals, signal markings and markings on the railway track (“Official Gazette of RS” No. 51/20), and Article 61, Item 12 and Article 63, Item 5 of the Rulebook 2, Traffic Rulebook (“Official Gazette of the ZJŽ” No. 3/94, 4/94, 5/94, 4/96 and 6/03).

Status of the recommendation: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_06/20 is 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: Directorate for Railways submitted a Report - Letter I-01 No. 340-834/2021 of 27.07.2021., safety recommendation SR_07/20 is accepted.

SR_08/20 JP “Putevi Srbije” to, in the capacity of the road infrastructure manager, establish cooperation with the railway infrastructure manager of the Pančevo Oil Refinery (“NIS” a.d. Novi Sad) and conclude an Agreement which regulates more closely the relations regarding the respective level crossing, in accordance with the provisions of Articles 67 and 70 of the Law on Railways (“Official Gazette of RS” No. 41/2018).

Status of the recommendation: MGSI submitted a Report - Letter No. 340-07-533/2000-04 of 10.05.2021. and Report - Letter No. 340-01-00533/2020-04 from 27.07.2021., safety recommendation SR_08/20 is executed.

SR_09/20 JP “Putevi Srbije” to, in the capacity of the road infrastructure manager, on the level crossing at km 2+231 of the industrial track of the Pančevo Oil Refinery (“NIS” a.d. Novi Sad) harmonize the installed road signalization with the valid regulations on road signalization.

Status of the recommendation: MGSI submitted a Report - Letter No. 340-07-533/2000-04 of 10.05.2021. and Report - Letter No. 340-01-00533/2020-04 from 27.07.2021., safety recommendation SR_09/20 is not 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 submitted a Report - Letter No. 340-07-533/2000-04 of 11.02.2021., a Report - Letter No. 340-07-533/2000-04 of 10.05.2021. and a Report - Letter No. 340-01-00533/2020-04 of 27.07.2021., safety recommendation SR_10/20 is accepted.