State Commission on Rail Accident Investigation

Ministry of Infrastructure

ANNUAL REPORT FOR 2017

FROM THE OPERATIONS OF THE State Commission on Rail Accident Investigation

approved by:

Signed on the original copy:

Tadeusz Ryś

President of the State

Commission on Rail Accident Investigation

ul Chałubińskiego 4, 00-928 Warszawa

tel.: (022) 630 14-33, fax.: (022) 630 14-39, e-mail: pkbwk@mi.gov.pl

Telephone on duty 510 126 711

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1. Introduction

1.1 Legal basis for the functioning and tasks of the Commission

At the Minister responsible for transport, there is an independent, permanent State Commission for Railway Accident Investigation ("Commission" or "PKBWK"). The creation of the Commission resulted from the implementation into national law of Directive 2004/49 / EC of the European Parliament and the Council of 29 April 2004 on the safety of the Community's railways ("the Directive"). According to art. 21 of the Directive, each Member State should ensure investigation of causes of accidents and incidents by a permanent entity that is functionally, organisationally and decisively independent of the security authority, railway market regulator, railway undertakings, infrastructure managers and any other parties whose interests could be incompatible with the functioning of the investigating body. The State Commission on Rail Accident Investigation ("Commission") is the national investigative body specified in the Directive, according to national law. The Commission is completely independent in organizational and legal terms from entities referred to in art. 21 of the Directive and represented outside by the Chairman.

In accordance with the provisions of Chapter 5a of the Act of 28 March 2003 on railway transport (consolidated text: Dz.U. of 2017, item 2117, as amended), the Commission carries out its tasks on behalf of the Minister responsible for transport. In accordance with the remarks submitted by the representatives of the European Commission, amendments to the Act on railway transport, the Act of 25 September 2015, were amended into national law on amending the act on railway transport (Dz.U., item 1741). The basic task of the Commission is to conduct proceedings after any serious accident in rail transport (occurring on railway lines and railway sidings) with obvious negative impact on safety regulation or management of this safety. The Commission may also investigate accidents or incidents that, under slightly different conditions, would be serious accidents causing the cessation of the operation of structural subsystems or interoperability constituents of the trans-European rail system.

The decision to take an action in the event of an accident or incident referred to above, the President of the Committee, takes no later than within a week from the date of obtaining information about its occurrence.

The Commission may conduct proceedings in respect of an accident and incident of another, if it occurred in circumstances justifying such a review, in which case the decision to take the procedure shall be made by the President of the Commission, without a specified deadline.

In line with the changes introduced to the Act on railway transport, from 1 March 2016, the scope of the Commission's competences was expanded to include the possibility of investigating events that are

place on railway sidings. The inclusion of railway sidings by analogous solutions that operate on railway lines, harmonizes the rules for collecting data on rail events and also takes into account the risks that arise from transport in the area of railway sidings.

Another condition for the possibility of conducting proceedings on accidents and incidents is their occurrence in repetitive situations caused by similar causes. Any decision to proceed with an accident or incident is preceded by:

- the gravity of the accident or incident;
- whether the accident or incident creates a series of accidents or incidents relating to the system as a whole;
- the impact of an accident or incident on railway safety at Community level;
- applications from managers, railway carriers, the minister responsible for transport, the President of the UTK or European Union Member States.

Within one week from the date of the decision to commence proceedings, the Commission shall inform the Agency, stating the date, time and place of the event, as well as its type and effects including fatalities, injuries and injuries sustained as well as material losses.

As part of its activities, the Commission conducts investigations aimed at determining the causes, circumstances of events as well as identifying preventive proposals. The Commission makes decisions in the form of a resolution.

Members of the Commission have ID cards authorizing them to perform their duties at the accident site according to the regulation of the Minister of Transport of 21 February 2007 on the template for the membership of the State Commission on Railway Accidents Investigation (Dz.U., item 269).

In cases where the Commission conducts proceedings, it prepares a report compliant with the regulation of the Minister of Transport of 12 April 2016 amending the ordinance on the contents of the report on the proceedings in the case of a serious accident, accident or incident railway (Dz.U., item 369).

1.2. Organizational structure of the Commission

As at December 31, 2017, the Commission consisted of 10 permanent members including the Chairman, two Deputies, the Secretary and one employee of the Commission's staff dealing with administrative and office matters and the secretariat of the President of the Commission. The Commission has its seat at the Ministry of Infrastructure in Warsaw, ul. Chałubińskiego 4, and as stipulated in art. 28d par. 2 of the act, personnel, financial and social services and the administration of the Commission is run by the appropriate organizational units of the office servicing the minister responsible for transport.

In accordance with the provisions of § 5 para. 1 of the Rules of Procedure of the State Railway Accident Investigation Commission, included in Annex No. 1 to Regulation No. 29 of the Minister of

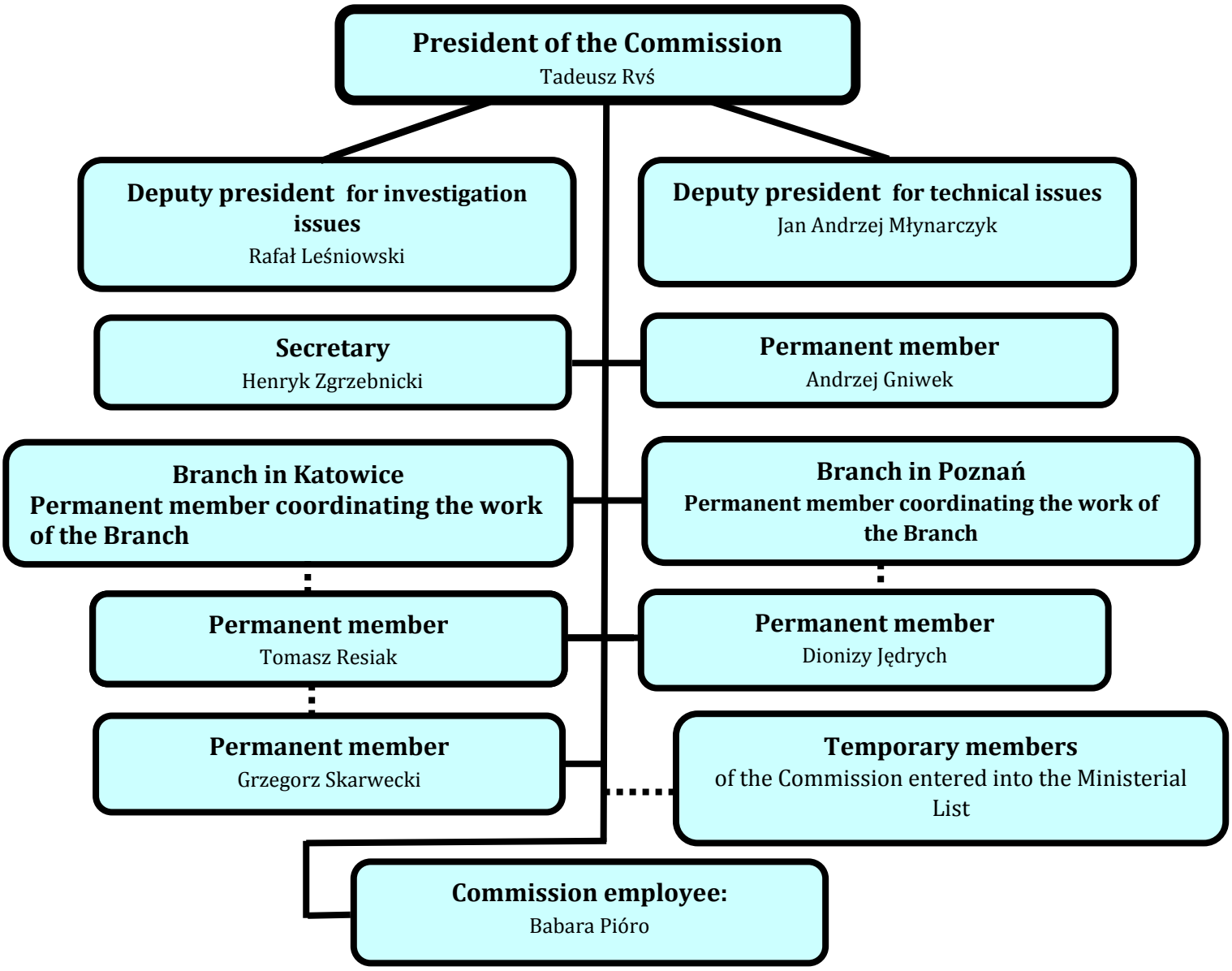
Infrastructure and Construction on June 22, 2017 regarding the regulations of the State Railway Accident Investigation Commission (Journal of Min. Inf. And Constr. 48), the Chairman coordinates the implementation of the tasks of the Commission, ensures the proper organization of the work of the Commission, its efficient operation and represents the Commission outside.

As a result of the amendment to the Rail Transport Act in 2015, additional obligations related to the inclusion of rail sidings were also imposed on the PKBWK, which resulted in a rapid increase in the number of events reported to the Commission starting March 1, 2016. In the new system, covered by the GDPWC covered by there are over 700 entities, including railway line managers, carriers and siding users, who are obliged to report incidents to the Commission for the purpose of undertaking the proceedings.

On the basis of the statutory delegation specified in art. 28d par. 4 of the Act of 28 March 2003 on rail transport, the minister competent for transport was obliged to determine by ordinance, regulations of the Commission's activities, the number of its permanent members and organizational structure, taking into account the nature of its tasks and the need to provide adequate resources necessary for the proper implementation of the tasks of the Commission.

According to the new organisational structure the Commission consists of:

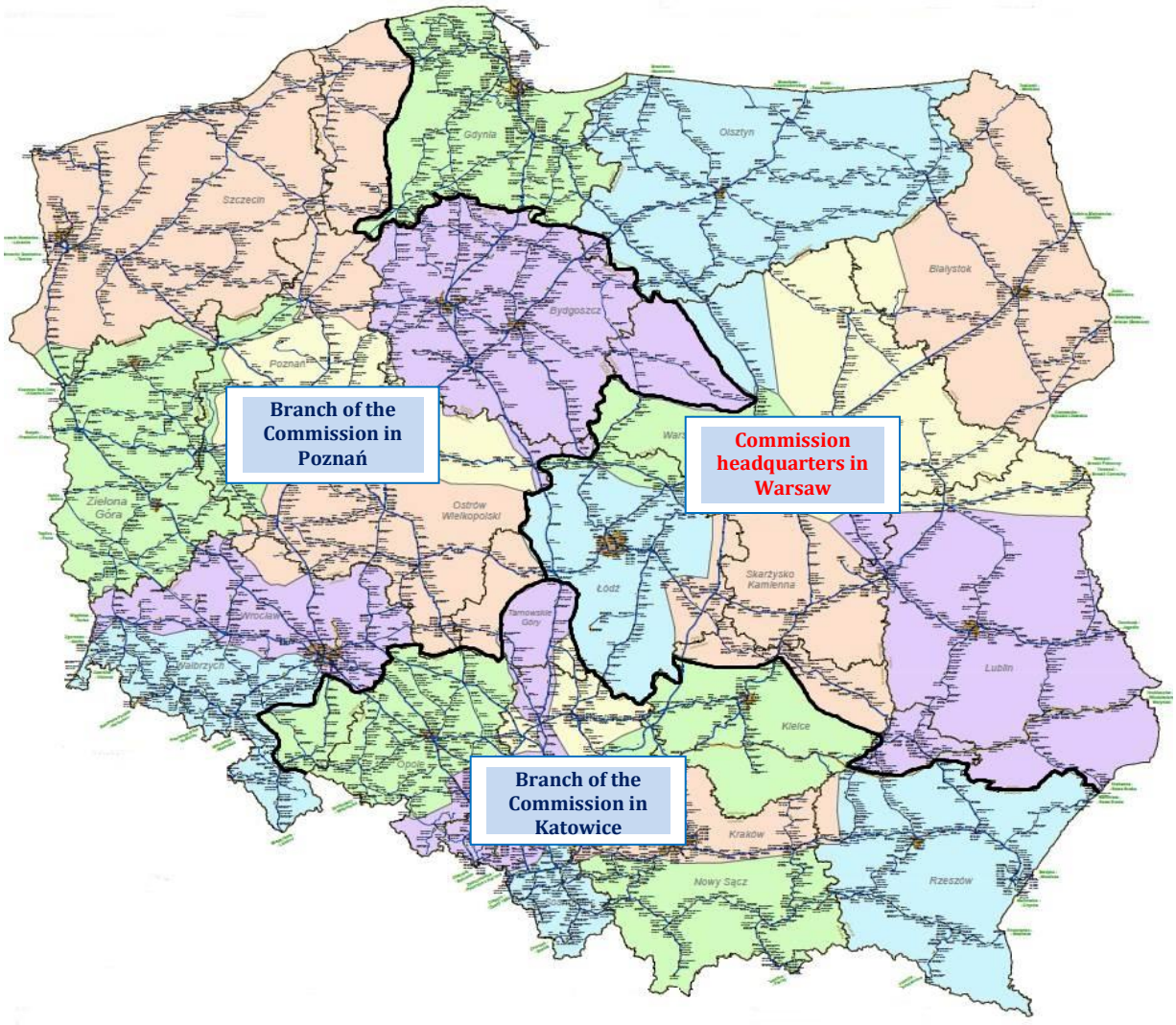
1. Commission office with headquarters in Warsaw (planned 6 positions):
    1) permanent members (5 positions):
        a) president,
        b) deputy president for investigation issues,
        c) deputy president for technical issues,
        d) secretary,
        e) permanent member;
    2) secretarial staff (1 position)
2. Commission Branch in Katowice (planned 4 positions):
    1) Permanent member coordinating the work of the Branch
    2) permanent members (3 positions):
3. Commission Branch in Poznań (planned 3 positions):
    1) Permanent member coordinating the work of the Branch
    2) permanent members (2 positions):



Status as of 31 December 2017

Employment status as of 31 December 2017 in:

- the office of the Commission with its seat in Warsaw - 6 persons (including 5 permanent members and one secretarial employee),
- a branch of the Commission in Katowice - 3 people,
- a branch of the Commission in Poznań - 2 people.



Restructuring changes regarding the Commission established by the Act of 25 September 2015 on the amendment of the Act on railway transport (Dz.U. item 1741) were implemented in 2017.

Organizational structure and new Rules of Operation of the State Railway Accident Investigation Commission were introduced by Regulation No. 29 of the Minister of Infrastructure and Construction of 22 June 2017 on the operating rules of the State Railway Accident Investigation Commission (Journal of Min. Inf. and Constr. item 48).

2. Forms of conduct by the Commission and supervision by the President in 2017.

In 2017, the Commission investigated serious accidents and accidents and incidents in the following forms:

1. Conducting proceedings by the Commission research team appointed by the President of the Commission - in the case of this form, the President of the Commission appointed the head of the research team, and then in agreement with him determined the composition of the research team from permanent and ad hoc members. The Commission's research team carried out activities aimed at determining the circumstances and causes of events and preparing documentation describing the process of conduct necessary for the Commission to adopt a resolution to close a serious accident, accident or incident. The head of the research team assigned and coordinated activities performed by people who are part of this team and was responsible for the correctness of the activities carried out. Tasks and the scope of detailed activities are set out in the Organizational Regulations of the PKBWK of 22 June 2017 Until the entry into force of the Ordinance of the Minister of Infrastructure and Construction of 12 April 2016 amending the ordinance on the contents of the report on the serious accident, accident or incident proceedings, the tasks and duties of the research team were performed by the post-accident team.

   In 2017, the President of the Commission decided seven times to take the proceedings and appoint a research team on the following events:

   1) serious accident category A18 occurring on April 4, 2017 at 17:34 on level-A railroad crossing, located at km 244.676, on the Zawadówka - Uherka route in track No. 1, railway line No. 7;
   2) serious accident category A20 occurring on April 7, 2017 at 15:11 on a category C rail-road crossing located on the monorail route Ozimek - Chrząstowice, km 56.977, railway line No. 144;
   3) a C52 railway incident occurred on 16 May 2017 at 20:09 in the Podstolice station, in the station track No. 2, in km 262,500, railway line No. 3;Report from an investigation on the category C52 serious accident of 30 August 2017 at 8:09 PM in Smętowo station, in station track No. 2, in km 262.500 of railway line No. 3:
   4) Report from an investigation on the category A04 serious accident of 30 August 2017 at 21:53 in Smętowo station, in station track No. 2, in km 457.485 of railway line No. 131:
   5) serious accident of A18 category occurred on 2 November 2017 at 18:49 at the D category rail-road crossing located on the Śniadowo - Łapy route, at km 37.11, railway line No. 36;
   6) accident of B37 category occurring on 10 November 2017 at 6:20 on the Nysa - Nowy Świętów trail, in track No. 2, in km 129.650, on the railway line137;

7) accident of B13 category occurring on 24 November 2017 at 06:48 in Laskowice Pomorskie station, in track No. 2, at km 424, 208, railway line No. 131.

The state of implementation of these proceedings covered by the proceedings carried out by the Commission:

- the proceedings listed in items 1, 2, 3, 4 were completed by the Commission's research teams, after acquainting the interested parties with the content of the Report draft, the developed "Reports of proceedings" were adopted by the resolution of the Commission and published,
- the proceedings listed in items 5, 6, 7 are being finalized, analyzed and collected by the Commission's research teams - will be finalized at the statutory date, i.e. the fourth quarter of 2018.

Detailed information on the ongoing proceedings regarding these events is included in the further wording of the Report.

2. Direct participation of a member of the Commission in the inspection of the accident site in the presence of railway commissions - it was used primarily in events where there was a suspicion that the malfunctioning railway traffic safety management system contributed to the accident and required analysis and possible corrective actions or other reasons indicating the need to take a case.

   Recognition on the spot allows the decision of the President of the Commission to take over the proceedings to determine the circumstances and causes of the incident.

3. The Commission cooperated with the relevant stakeholders on major accidents, accidents or incidents in other European Union Member States, including: The Commission cooperated with Drážní Inspekce (equivalent to the PKBWK in the Czech Republic) regarding the causes of the accident at the Bohumin Vrbice station on 8 August 2017 at 0:56.

4. The Commission monitored the reported railway incidents and maintained the Register of Railway Event Records (EwZd).

5. In 2017, joint meetings of the Commission and railway committees were held at the headquarters of the PKBWK in Warsaw and the external meetings of the Chairman and other members of the PKBWK and railway commissions outside the headquarters of the Commission were held many times, including in places where events occurred, combined with visual inspection, testing and measurement with the participation of the Commission and analysis of documentation related to events. In connection with the changes that were introduced by the Act of 5 September 2015 about amending the act on railway transport, pursuant to art. 28n, the implementing provisions were applied, i.e. the Regulation of the

Minister of Infrastructure and Construction of 16 March 2016 on serious accidents, accidents and incidents in rail transport, which entered into force on 19 March 2016.

The most important factors influencing the functioning of the Commission were:

- Cooperation - between authorities operating in parallel and independently with mutual respect of competences in relation to the occurrence of a railway incident, based on the "Agreement of 27 June 2014 concluded between the State Rail Accidents Investigation Commission and the General Procurator." The agreement also applies to cooperation with the Police, Internal Security Agency, Military Police and Border Guard (in accordance with the definition of the body conducting criminal proceedings - in § 1 point 5 of the Agreement). All provisions relating to the rights of the PKBWK apply also to the railway commission. The content of the Agreement is available on the website of the PKBWK *www.gov.pl* tab*: Ministry of Infrastructure → What we do → Tasks → Transport → Rail → State Commission on Railway Accidents Investigation.*

- Agreement of December 16, 2014 concluded between the Police Commander in Chief and the State Railway Accident Investigation Commission, concluded to determine the principles of cooperation in the field of mutual support for activities undertaken at the level of organized and conducted by them training projects.

- Agreement of June 3, 2016 concluded between the Chairman of the State Railway Accident Investigation Commission and the President of the Office of Rail Transport on cooperation in the field of railway transport safety of the Republic of Poland. The purpose of the agreement is the joint actions of the parties for the development and safety of rail transport and the exchange of information and experience in the work of railway commissions.

- As part of the exchange of experience and the improvement of the quality of the event investigation system and the improvement of safety in rail transport, the Commission organizes training for the Prosecutor's Office and the Police. Members of the Commission participate in trainings, conferences, meetings, plenary meetings, working groups, workshops, meetings organized by the European Union Rail Agency and entities conducting proceedings in the event of serious accidents, accidents and incidents in other EU Member States organized by other entities.

- Amendments to national regulations since March 2016 (laws and ordinances), causing the inclusion of railway sidings in the system of supervision and examination of rail events, caused the imposition of new duties on railway siding users as regards reporting to the Chairman of the PKBWK and the President of UTK all

railway events, researching the causes of events by research teams set up for this purpose, and recording events and analyzing their impact on the level of safety on the siding. The year 2017 was the first full year of amendments to the national provisions in force.

3. Events in the period from January 1 to December 31, 2017.

3.1 Events reported to the Commission by obligated entities

As at 31 December 2017, the obligation to immediately notify the Commission and the President of UTK of serious accidents, accidents and incidents on railway lines by managers, railway undertakings and users of railway sidings resulted from art. 28g par. 1 of the Rail Transport Act. However, the obligation to notify the incident in detail by the manager or user of the railway siding appropriate for the place of the incident arose from § 7 para. 1-5 of the Regulation of the Minister of Infrastructure and Construction of 16 March 2016. on serious accidents, accidents and incidents in rail transport.

Amendments to national regulations have established the division into the following types of events in rail transport:

1) **serious accident** – **any accident caused by** a collision, derailment or other event that obviously affects rail safety regulation or safety management: with at least **one fatality or at least five seriously injured people** (seriously injured - a person who as a result of a serious accident or accident suffered a bodily or health disorder and as a result staying in the hospital for longer than 24 hours), or causing a significant damage to the railway vehicle, railway infrastructure or environment that can be immediately estimated by the accident investigation committee at least 2 million EUR,
2) **accident** - an unintentional, sudden event or sequence of events involving the railway vehicle causing negative consequences for human health, property or the environment; accidents include, in particular: collisions, derailments, level crossing events, events involving persons caused by a railway vehicle in motion or fire of a railway vehicle,
3) **incident** - any event other than an accident or serious accident related with the **railway traffic** and affecting its safety.

This determination of the category of events (serious accident and incident) were defined in accordance with the provisions of the Rail Transport Act, which entered into force on 1 March 2016.

Until February 29, 2016, there were different definitions of events than the above-mentioned mentioned. The changes regarding definitions are presented in detail in the 2016 Annual Report.

In the period from 1 January to 31 December 2017, they were notified to the Commission and registered in the Railway Event Records system (EwZd) in total 2019 railway events according to the qualifications resulting from the regulation of the Minister of Infrastructure and

Construction of 16 March 2016 on serious accidents, accidents and incidents in rail transport, of which : 4 serious accidents, 743 accidents and 1272 incidents.

Table 2 shows the number of victims (killed and seriously injured) in events in 2017 in relation to 2016.

The number and structure of events divided into categories are presented in tables 1 and 3 below.

Table 1. Events reported to the Commission in 2017 as compared to 2016.

Type of event (PW - serious accident, W-accident, I-incident)	2016	2017	Change 2017/2016
Serious Accident (Cat. A)	**2**	**4**	**+100.0%**
Accident (Cat. B)	**688**	**743**	**+8.0 %**
Incident (Cat. C)	**853**	**1272**	**+49.1%**

Table 2. Persons injured in events in 2017 compared to 2016.

Victims	2016	2017	Change 2017/2016
Fatalities	**174**	**172**[*)]	**- 1,1%**
Seriously injured	**92**	**88**	**-4.3%**

[*)] Total number of deaths according to information provided as at the date of the Report (10 August 2018) does not take into account injured persons classified in the prosecutor's decisions as suicides or suicide attempts - including railway sidings.

Table 3 - The structure of events in 2017 in relation to 2016, divided into categories

Event category (letter designation)	Description of the event category **Qualification of a direct cause**	Category (digit designation)	TOTAL 2016	TOTAL 2017
A	Failure to stop by a railway vehicle in front of the "Stop" signal or in the place where it should stop, or starting the railway vehicle without the required "go" signal	4	0	1
	Collision of a railway vehicle with a road vehicle (other road machine, agricultural machine) or vice versa at a railway crossing with road tolls (category A according to transit method)	18	2	2
	Collision of a railway vehicle with a road vehicle (another road machine, agricultural machine) or vice versa on a rail-road crossing equipped with a self-propelled road system with traffic lights and no turnpikes (category C)	20	0	1
	SERIOUS ACCIDENTS		**2**	**4**
B	Other than the below-mentioned reasons or the co-existence of several causes at the same time, creating equivalent causes	00	12	19
	Directing a railway vehicle to a busy track, closed or opposite to the main track or in the wrong direction	01	0	0
	Accepting a railway vehicle at the station on a closed or busy track	02	1	0
	Directing, accepting or driving a railway vehicle on an improperly laid unprotected route or improper operation of rail traffic control devices	03	30	35
	Failure to stop by a railway vehicle in front of the "Stop" signal or in the place where it should stop, or starting the railway vehicle without the required "go" signal	04	21	20
	Failure to be cautious when the railway vehicle passes an automatic interval semaphore indicating the "Stop" signal or a "Caution" signal after stopping	05	0	1
	Exceeding the highest permitted speed	06	3	1
	Performing a maneuver posing a threat to train traffic safety	07	4	2
	Rolling out of a railway vehicle	08	10	10
	Damage or poor maintenance of a building, e.g. a surface, bridge or viaduct, including improper performance of works, e.g. improper unloading of materials, surface, leaving materials and equipment (including road machines) on the track or gauge of a railway vehicle or hovering a railway vehicle on building elements	09	55	61
	Damage or poor condition of a power-driven railway vehicle, a special purpose railway vehicle (including moving over an object constituting a structural part of a railway vehicle with a drive, a special purpose railway vehicle) and damage or incorrect operation of the on-board part of the devices enabling the rail vehicle control (ERTMS)	10	8	7
	Damage or poor technical condition of a rail car (including moving over the structural part of the car)	11	27	28
	Damage or incorrect operation of railway traffic control devices	12	1	3
	Collission of a railway vehicle with a railway vehicle or other obstacle (e.g. brake shoe, luggage cart, postal cart)	13	57	59
	Criminal attack	14	0	0
	Premature termination of the run or close of the closure and transfer of the crossover under the railway vehicle	15	24	12
	Incorrect combination of a train or a maneuvering component	16	2	1
	Improper loading, unloading, irregularities in cargo securing or other irregularities in loading operations or improper train composition or maneuvering composition	17	3	8
	Collision of a railway vehicle with a road vehicle (other road machine, agricultural machine) or vice versa at a railway crossing with road tolls (category A according to transit method)	18	8	11
	Collision of a railway vehicle with a road vehicle (another road machine, agricultural machine) or vice versa on a rail-road crossing equipped with a self-propelled road system with traffic lights and turnpikes (category B)	19	15	16
	Collision of a railway vehicle with a road vehicle (another road machine, agricultural machine) or vice versa on a rail-road crossing equipped with a self-propelled road system with traffic lights and no turnpikes (category C)	20	22	27
	Collision of a railway vehicle with a road vehicle (another road machine, agricultural machine) or vice versa on a rail-road crossing not equipped with a road system (category D)	21	147	154
	Collision of a railway vehicle with a road vehicle (another road machine, agricultural machine) or vice versa on a private-use rail-road crossing (category F)	22	0	0
	Collision of a railway vehicle with a road vehicle (other road machine, agricultural machine) or vice versa, excluding rail-road crossings at stations and routes or on the communication and access road to the side track	23	6	10
	Fire on the train, maneuvering compound or in a railway vehicle	24	3	1
	A fire in a building, etc. within the railway area, forest fire within the end of the fire-fighting zone, fire of cereals, grasses and tracks created within the boundaries of the railway area	26	0	0
	An explosion on a train, maneuvering compound or railway vehicle	27	0	0
	Natural disasters (e.g. flood, snow drifts, ice jams, hurricanes, landslides)	28	5	15
	Construction catastrophe in the immediate vicinity of the railway tracks where normal train traffic takes place	29	0	0
	Malicious, hooligan or reckless misdeeds (eg throwing a train with stones, theft of cargo from a train or maneuvering composition in motion, laying obstacles on the track, devastation of power devices, communication, control of railway traffic or surface and interference with these devices)	30	3	6
	Collision of a railway vehicle with people while crossing the tracks on a railroad crossing or guarded passage	31	6	2
	Collision of a railway vehicle with people while crossing the tracks on a railroad crossing with an automatic crossing system (cat. B, C)	32	9	7
	Collision of a railway vehicle with people while crossing the tracks on the remaining railroad crossings and passages	33	13	10
	Collision of a railway vehicle with people while crossing the tracks outside rail-road crossings or crossings at stations and routes	34	171	182
	Occurrences with persons connected with the railway vehicle movement (jumping in, falling out of a train, railway vehicle, strong access or sudden braking of a railway vehicle)	35	22	30
	Ignoring signals prohibiting entry to the railroad crossing and damage to the gantry or traffic lights by the road vehicle operator	36	0	0
	Bursting of a train or maneuvering set that did cause the wagons to roll out	37	0	1
	Incorrect operation of buildings and devices intended for railway traffic or railway vehicles caused by theft	38	0	1
	Entry of a railway vehicle using the traction power supply from the traction network to an uninhabited, non-powered track	39	0	0
	Uncontrolled release of dangerous goods from a wagon or packaging that require intervention by the authorities or measures to eliminate fire, chemical or biological hazards at the station or on the route	40	0	0
	Unknown category	-	-	3
TOTAL	**ACCIDENTS -**		**688**	**743**
C	Directing a railway vehicle to a busy track, closed or opposite to the main track or in the wrong direction	41	3	0
	Accepting a railway vehicle at the station on a closed or busy track	42	0	5
	Directing, accepting or driving a railway vehicle on a wrongly laid, unprotected route or improper operation or lack of operation of railway traffic control devices	43	47	59
	Failure to stop by a railway vehicle in front of the "Stop" signal or in the place where it should stop, or starting the railway vehicle without the required "go" signal	44	57	82
	Exceeding the highest permitted speed	45	3	4
	Performing a maneuver posing a threat to train traffic safety	46	2	2
	Rolling out of a railway vehicle	47	3	2
	Premature termination of the run or close of the closure and transfer of the crossover under the railway vehicle	48	0	1
	Incorrect train composition	49	2	0
	Improper loading, unloading, irregularities in cargo securing or other irregularities in loading activities	50	11	25
	Damage to the surface, bridge or viaduct, overhead contact line, improper work, e.g. improper unloading of materials, leaving materials and equipment (including road machines) on the track or in the gauge of the railway vehicle	51	35	29
	Incorrect operation of railway traffic control devices causing: - unblocking with the signal "Stop" the line blocking distance occupied by the railway vehicle, - setting the permitting signal on the semaphore with incorrectly routed path, incorrect operation of unoccupied track or turnout devices, improper operation of station or line interlock devices, - failure to protect and protect road users against a train approaching a rail-road crossing or a passage equipped with a transit system	52	2	4
	Damage or poor condition of a railway vehicle with a drive, a special purpose railway vehicle necessitating its removal from traffic due to indications by the emergency rolling stock detection devices, confirmed in workshop conditions (hot axle boxes, hot brake resulting in shifted rim), and other defects in railway vehicles in motion noticed by service personnel (e.g. broken spring)	53	21	22
	Damage or poor technical condition of the wagon causing the necessity of its removal from traffic due to indications by the emergency rolling stock detection devices confirmed in workshop conditions (hot axle boxes, hot brake resulting in displaced rim) as well as other defects in railway vehicles in motion noticed by the personnel operating	54	262	242
	A fire on a train or a railway vehicle that does not have adverse effects on property or the environment, without harm	55	21	19
	Fire in a railway vehicle, except fires in trains	56	1	0
	A fire of a construction object and vegetation in the immediate vicinity of railway tracks, on which normal railway traffic takes place	57	2	4
	Uncontrolled release of dangerous goods from a wagon or packaging that require intervention by the authorities or measures to eliminate fire, chemical or biological hazards at the station or on the route	58	0	0
	Uncontrolled release of dangerous goods from a wagon or packaging that require intervention by the authorities or measures to eliminate fire, chemical or biological hazards at the station or on the route	59	15	1
	Collision of a railway vehicle with an obstacle (e.g. brake shoe, baggage cart, postal cart etc.) without derailing or injured persons	60	33	31
	Criminal attack	61	0	2
	Natural disasters (e.g. flood, snow drifts, ice jams, hurricanes, landslides)	62	21	26
	Construction catastrophe in the immediate vicinity of the railway tracks where normal train traffic takes place	63	1	0
	Malicious, hooligan or reckless offenses (eg throwing a train with stones, stealing cargo from a train or maneuvering station in motion, laying obstacles on the track, devastating power equipment, communications, traffic control or surfaces and interference with these devices), without injuries or negative consequences for property or the environment, posing a threat to passengers or employees of the train	64	63	125
	Occurrences with persons associated with the operation of a railway vehicle (crossing the tracks at level crossings and transitions or outside, jumping, falling off of a train or railway vehicle, set-off by rolling stock, strong acceleration or rapid braking of the railway vehicle), without injuries or negative consequences for property or the environment	65	26	22
	Failure to stop the road vehicle from a closed half-timepiece and its damage or traffic lights, on which signals were signaled of an approaching train, without collision with a railway vehicle	66	52	171
	Incorrect operation of devices intended for railway traffic or railway vehicles due to theft	67	1	0
	Bursting of a train or maneuvering set that did not cause the wagons to roll out	68	161	373
	Other than the above-mentioned reasons or the co-existence of several causes at the same time, creating equivalent causes	69	8	21
	INCIDENTS - TOTAL		**853**	**1272**
	EVENTS - TOTAL		**1543**	**2019**

Diagram 1. Structure of events in 2017 divided into categories

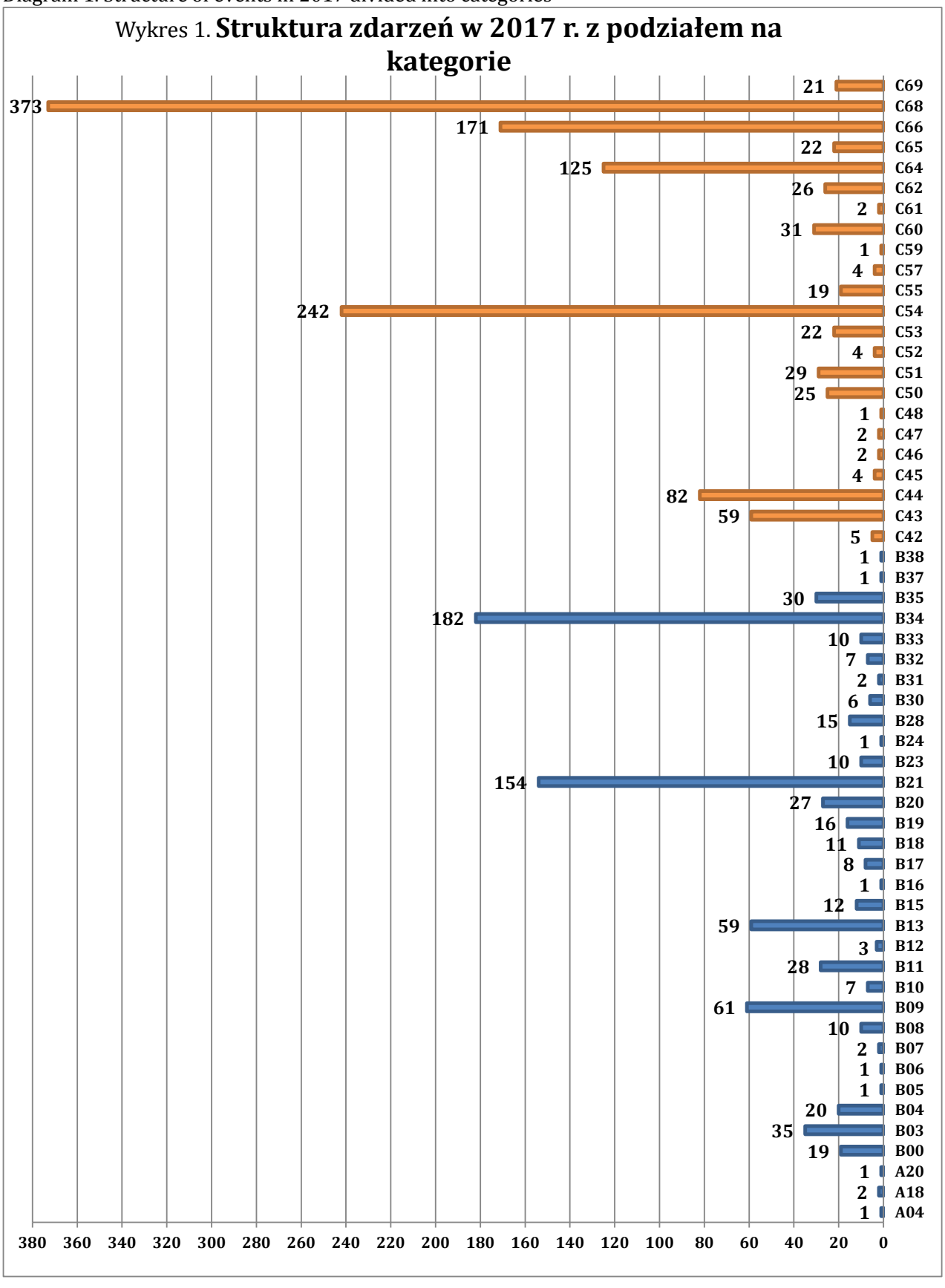


Diagram 1 does not contain rail events occurring in 2017 for which no category has been determined until 10 August 2018.

3.2 Events for which the Commission carried out directly proceedings notified to the European Union's Railway Agency (EUAR)

3.2.1 Serious A18 category accident occurred on April 4, 2017 at 17:34 at the level-A railroad crossing, located at km 244.676, the Zawadówka route - Uherka, in track No. 1, railway line No. 7

On 4 April 2017 at 17:34 passenger train ROJ 22317 from Lublin to Chełm, operated by the electric traction unit (ezt) of the EN57-1292 series (EVN numbers of railway vehicles participating in the event PL-PREG 94 51 2 121 995- 6 + PL- PREG 94 51 2 121 996-4 + PL-PREG 94 51 2 121 997-2), belonging to the railway carrier "Przewozy Regionalne" Spółka z o. O., Świętokrzyski Branch with headquarters in Skarżysko-Kamienna, at the railway crossing "A" category road, located along the poviat road No. 104884L (name and street number: Metalowa - Trubakowska nr 06229), on the Zawadówka route - Uherka branch post of railway line No. 7: Warszawa Wschodnia Osobowa - Dorohusk, track no. 1, at km 244.676 hit a passenger car of the Toyota Yaris brand with the registration number LC XXXXX, which entered the category railway and road level and directly below the oncoming train with open tollboats. The train was run by the driver of electric traction vehicles and the train manager - employed in "Przewozy Regionalne" Spółka z o.o., Lubelski Branch with registered office in Lublin. The road vehicle entered the above-mentioned passing from the right side in the direction of the train and was hit by a railway vehicle e.z.t. No. EN57-1292 - right part of the "Ra" cabin, in the front part of the passenger car on its left side.

The driver of the railway vehicle passing the W6a index in km 243,750 referring to the passage of category A in km 244,676 gave the signal Rp1 "Guard" (926 m before the crossing). From the Zawadówka station, he continued to drive at an increasing speed, increase to 110 km / h - on a section of about 1300 m - and then there was a slow speed drop to 105 km / h - on a section of about 600 m - at the permissible timetable speed on this section 120 km / h (permissible maximum speed for this train is 110 km / h). Approaching the passage of category A, km 244,676, at the moment the train was in the arch, the driver saw the road vehicle approaching in the direction of the railroad crossing (it was visible in a fraction of a second between the traveler's booth and the toilet). The driver saw raised tollboats and the lack of a lineman on the railway crossing (and no D8 signal) a short distance before the rail-road crossing. The visibility of the raised gates was covered by the crossing guard building. At this point, he gave a very long signal Rp1 "Attention" and at a distance of about 50 m before the crossing he implemented a sudden braking of the train, which confirms the record of the Hasler RT-9 recorder installed in a traction vehicle on which a sudden fall has been registered

speed (up to v = 0km / h) to stop the vehicle. The railway vehicle with a speed of about 105 km / h hit the right side of the e-board face. from the side of the "Ra" cab, into the front part of the road vehicle. The hit Toyota Yaris road vehicle was pushed off the road to the right side of track 1 in the direction of the train running to the drainage ditch. After impact, the Toyota Yaris

passenger car was pushed to the distance of 59.2 m from the road-rail axis and rejected at a distance of 10 m from the axis of track No. 1 to the right in the direction of the train (towards ul. Nadtorowa). There were no visible signs of car braking at the intersection and on the access road. There were two people in the car - driving a road vehicle and a passenger. The driver driving the road vehicle died on the scene of the incident, the injured (minor) passenger in severe condition, was transported by the Emergency Ambulance to the Independent Public Provincial Specialist Hospital in Chełm (died in the hospital on 09/05/2017).

The front of the train stopped at km 245,121 at a distance of 445 m from the point of impact, counted from the axis of the railway-road crossing - according to the inspection protocol from the place of a serious accident at the level crossing. It is impossible to accurately read the braking distance of the train according to speedometer readings (from the moment the emergency train is switched on) due to incorrect registration of parameters on the speedometer belt. In e. No. EN57-1292, the railway commission identified visible damage from the "Ra" cabin: the keypad (electrical coupling), the mechanical coupling, the brake lines and working, defective track scraper, broken right hand side, damaged right headlamp, speedometer drive and power supply of timing circuits. Passengers traveling by ROJ No. 22317 were not injured. A Toyota Yaris passenger car it was completely destroyed.

In connection with the decision of the Chairman of the WCWK to take over the proceedings by the Research Team, pursuant to art. 28e, para. 4 of the act on rail transport, on 7 April 2017 the commission reported this fact to the European Union Railway Agency ("EUAR") via the "ERAIL" IT system and the above event was registered in the ERA database under number PL-5320. The Commission prepared the report no. PKBWK / 01/2018 from the proceedings.

Recommendations of the State Railway Accident Investigation Commission from the report No. PKBWK/01/2018

1) PKP PLK S.A. will implement a change of the place of feeding by the crossing dicker of the D8 signal to a more visible one, which has been demonstrated in the inspection report of PKP PLK S.A.
2) PKP PLK S.A. will check the correctness of the operation of the train radio on the Zawadówka - Uherka route line No. 7.
3) PKP PLK S.A. enforces the obligation to use warning vests by crossing dancers.
4) PKP PLK S.A. as part of health and safety:
   a) will lead the working conditions of the lineman on the crossing in km 244,676 line No. 7 for compliance with applicable regulations, in particular the Regulation of the Minister of Labor and Social Policy of 26 September 1997 (Dz. U. of 2003 No. 169 item 1650 as amended) and will eliminate the irregularities referred to in Chapter III.1.3) (p. 56 of the Report),
   b) as part of a systematic approach to the working conditions of the staff operating the journeys - he will check the working conditions of the trackers on all level A crossings and in

the event of non-compliance with the above regulation, take appropriate corrective measures.

5) With regard to the safety management system, PKP Polskie Linie Kolejowe S.A. will take the following actions:
   a) on crossings cat. A served from the place, make successive checks from the cabins of rail vehicles with power, from the driver's seat, visibility of D8 signals given by the lineman; in case of visibility deficit or lack of its continuity, appropriate corrective and / or preventive actions should be taken,
   b) as part of the signal visibility check, inspect the visibility of toll gates open on vehicles equipped with these devices, in case of limited visibility or lack of its continuity, appropriate corrective and / or preventive actions should be taken,
   c) increase the number of team inspections for category A journeys; when determining objects for the above control activities, be guided in particular by dangers occurring at crossings.
6) As part of the safety management system, the carrier Przewozy Regionalne Sp. z o.o. provide:
   a) current and periodical check of the correctness of records of all parameters on the tape of electromechanical recorders of rail vehicles with power,
   b) in the internal regulations, make it compulsory for every driver to check the correctness of the parameters recorded on the speedometer belts when removing the tape from the speedometer; in the case of irregularities - they should be recorded in the book of vehicles with power drive,
   c) as part of the "Safety Improvement Program" will increase the number of speedometer tape controls,
   d) will take actions in the field of frontal camera construction in railway vehicles in accordance with the order No. DBK-550 / R-03 / KB / 12 issued by the President of UTK of 30/05/2012, addressed to railway carriers with the obligation to install recording devices - digital cameras or video recorders in railway vehicles newly built and in operation in accordance with the recommendation of PKBWK - No. PKBWK-076-305 / RL / R / 11 of November 22, 2011.

Recommendations for rail and road crossings at km 244,676 line No. 7 (i.e. recommendations of the PKBWK in points 1 and 4a) will become obsolete once the infrastructure manager has made the decision about changing the category of transit from A to B and finishing its modernization (decision of the PKP PLK SA Management Board expressed in Resolution No. 40/2018 of 16.01.2018).

3.2.2 Serious accident of category A20 occurred on April 7, 2017 at 15:11 on a category C rail-road crossing located on the monorail route Ozimek - Chrząstowice, at km 56,977, railway line No. 144

Event venue: Track No. 1 at the C-category railroad crossing at km 56.977 of the Ozimek - Chrząstowice railway route, line 144.

On 7 April 2017, at the level crossing of category C crossing the street Piotr Kuczki (poviat road No. 1744.0) with the railway line No. 144 Tarnowskie Góry - Opole Główne (railway route

Ozimek - Chrząstowice) at km 56,977, the EIP express train was overrun 6102 assembled from the electric traction unit (ezt) of the ED250-002 series (Pendolino) to a road vehicle standing on a rail-road crossing. The road vehicle consisted of a Mercedes Actros tractor unit and a VS-Mont semi-trailer (low-loader truck) on which the lorry was located. The road vehicle moved along the street on which the entry ban for heavy goods vehicles - marked with signs B-5. During the crossing of the rail-road crossing, the trailer was suspended at the crossing preventing the vehicle from sliding off the road. Oncoming from the side of st. Chrząstowice train No. 6102 from Wrocław Gł.-Warszawa Wschodnia after connecting the automatic crossing signaling (SSP) at km 56,977 and receiving information about the correct operation of devices warning users of the road at the crossing (2 white lights vertically on the Top568 crossing warning disc) continued to drive at a speed of about 140 km / h. After leaving the arch (the track is located in the arch with a radius of R 1550 m from km 56,743 - 57,760) 229 m before the railway passage in km 56,977 the train driver saw the obstacle at the crossing in the form of a standing road vehicle implemented a sudden braking and gave the signal "guard "(Rp1). Despite the implemented braking, the train number 6102 approached the road vehicle at the speed of 117 km / h.

The impact occurred in the rear part of the tractor unit and the front of the trailer. As a result of the collision, the semitrailer was unhitched from the tractor unit and the rejection to the right side (looking in the direction of the e. ED 250-002) of the tractor unit and the left side of the trailer with a lorry mounted on it. E.z.t. ED250-02 as a result of the impact derailed the first trolley about 6 m behind the axis of the passage to the left (looking in the direction of driving) and drove 266 m in the derailed condition. The forehead of the correctly signaled train stopped at km 56.705.

In connection with the decision of the Chairman of the PKBWK to start the proceedings by the Research Team, pursuant to art. 28e, para. 4 of the Rail Transport Act, the Commission notified this fact to the European Union Rail Agency ("EUAR") via the "ERAIL" IT system and the above event was registered in the ERA database under number PL-5325. The Commission prepared the report no. PKBWK / 02/2018 from the proceedings.

Recommendations of the State Railway Accident Investigation Commission from the report No PKBWK/02/2018

The PKBWK research team recommends the implementation of the following activities:

1. PKP PLK IZ in Opole together with the manager of the road will eliminate the existing profile of the road within the distance of 56,977, over 9%, which occurs at the connection of leveling plates with the bituminous surface of the road, until the irregularities are removed - carry out a risk assessment and introduce a safe speed trains.
2. PKP Intercity S.A. shall execute the order of the President of the Office of Rail Transport No. DBK-550/R03/KB/12 of 30.05.2012, addressed to railway carriers with the obligation to

install recording devices - digital cameras or video recorders in newly built and in operation railway vehicles , in accordance with the recommendation of PKBWK – No PKBWK-076-305/RL/R/11 of 22.11.2011.

3. PKP Intercity S.A. and other carriers will carry out and analyze the possibility and form of use and use of the passenger warning system in emergency train units in the event of emergency braking to eliminate injury to travelers.
4. PKP PLK S.A. it will give priority to the start-up of the "radio-stop" system traffic or any other measure aimed at immediate stopping of trains in the event of receiving information on obstacles on the track.
5. PKP PLK S.A. , The railway lines plant in Opole will turn on the recording system on the recorder in the dispatch telephone exchange, conversations between dispatchers are carried out, and traffic attendants.
6. PKP PLK S.A. will check the recording on all DGT devices in conversations throughout the network between the dispatcher and the dispatcher.
7. PKP PLK S.A. together with the Ministry of Interior and Administration, it will complete the program of pictogram placement in the area of rail and road crossings informing about the possibility of notifying the Traffic Management Center in the event of a hazard at the crossing.
8. In the program of PKP PLK S.A. "Safe passage - Stop and live" and other social campaigns the infrastructure manager will enter information for users of journeys on the way of notifying about existing dangers at crossings.
9. PKP PLK S.A. will manage, in all railway line plants, an extraordinary review of rail and road crossings in terms of the correct level of the road in relation to the bridge at rail-road crossings, and in the case of unevenness at level crossings, he will apply to the road administrator for setting the A-11 mark "uneven road".
10. PKP Intercity S.A. it will provide for rail vehicles in use with the drive, including ED250 series vehicles, the ability to read data from on-board recorders at the accident site by employees carrying out post-accident procedures, in particular will provide software for analysis of event-driven parameters and will provide internal management systems for ongoing analysis to control work drivers.
11. PKP PLK S.A. it will update safety management systems, in particular, the hazard register in terms of the possibility of occurrence of irregular recesses in the longitudinal profile of roads on railway and road level crossings and resulting from these hazards.
12. PKP PLK S.A. will organize a media campaign informing drivers about the introduction of information on telephone numbers at railway crossings to be called in the event of an emergency.

13. Carriers and Infrastructure managers during periodic instructions and ad hoc instructions will implement the principle of observation by the railway driver in the area within the track on which the railway vehicle travels regarding their interpretation and reaction in the case of unusual signs given by outsiders to stop the train.
14. During periodic instructions and ad hoc consultations, PKP PLK S.A. will continue the subject of using the "radio-stop" system or other alarm stopping the train and firm reactions to the received information on the threats affecting the safety of train traffic at stations and adjacent routes.
15. PKP PLK S.A. The railway lines plant in Opole will take actions aimed at improving the ergonomics of the station's work station Ozimek.
16. PKP PLK S.A. The railway lines plant in Opole will carry out a risk analysis on the subject roadway, and if irregularities are found, it will take steps to improve safety during the crossing.
17. The manager of the National Road will complete the F6 signs built before crossing the national street No. 46 with Kuczki St. in the town of Schodnia about traffic ban (including the T21 "100 m" or "except access to the base" plate at the entrance to P. Broods from both directions (Photo 22 p. 64, Photo 23 p. 65).
18. In connection with previous accidents on the subject run (described in point IV.1) and a serious accident that occurred on 07/04/2017. The Poviat Roads Authority in Opole as the manager of the poviat road No. 1744. On both sides of the drive, the signs A-30 "other danger" will be built together with T-14d plates, which should precede the signs B-33 "speed limit" (Fig. 6 pg. 33). 19. PKP Intercity S.A. in ED 250 vehicles, it will mount security devices on the upper luggage racks to prevent luggage from moving along the shelf and falling onto the passenger seats during emergency braking or centrifugal force.

3.2.3 C52 railway incidents occurred on 16 May 2017 at 20:09 in Podstolice station, in station track No. 2, in km 262,500, railway line No. 3

Train no. 773074 (relation Poznań Franowo PFB - Konin) of the PKP CARGO SA carrier, driven by ET22-1154 locomotive on entry from track no. 2 after passing the "Z" entry semaphore, stopped on the station track No. 2 of the Podstolice station, where it was train No. 773095 (Konin - Poznań Franowo PFA) carrier of PKP CARGO SA driven by SM42-1266 locomotive awaiting departure in the opposite direction. The train no. 773095 stood on the station track No. 2 due to the planned overtaking by the PKP Intercity train S.A. No. 17007. The entrance semicolon "Z" to the station Podstolice for the train No. 773074, despite the station track no. 2, indicated a continuous green light and the signal allowing the exit semaphore "F" was displayed for this train, allowing the train to pass through Podstolice without a stop. The front of both trains after stopping were at a distance of 67 m. The train driver no. 773074 did not use the "radio-stop" to stop the train.

As a result of the decision of the Chairman of the PKBWK to take over the proceedings by the Team, taking into account the provisions of art. 28e, para. 4 "Railway Transport Act", on 21 June 2017, the Commission notified this fact to the European Union Railway Agency ("EUAR") via the "ERAIL" IT system and the above event was registered in the ERAIL database under number PL-5362. The Commission prepared the report no. PKBWK / 03/2018 from the proceedings.

Recommendations of the State Railway Accident Investigation Commission from the report no. PKBWK/03/2018

The PKBWK research team recommends the implementation of the following activities:

1. Infrastructure managers will review installed SOT 2 devices for the installation of MER 111401/1 receivers and the date of their production.
2. If MER 111401/1 devices manufactured before 1998 are identified, infrastructure managers will urgently exchange them for receivers recommended by manufacturers, notified bodies and having type approval certificates or approvals.
3. Until all MER 111401/1 devices are replaced with other receivers, the infrastructure managers will perform special supervision over the efficiency of these devices and take action to limit the risk of potentially dangerous events and situations, including keeping the track busy control.
4. The research team recommends increasing PKP Polskie Linie Kolejowe S.A. the number of inspections in the area of rail traffic control devices, in particular the aspects related to the implementation of effective monitoring mechanisms and verification of the effectiveness of implementing recommendations formulated after inspections of technical condition and correctness of the operation of railway traffic control devices as the records provide in the Safety Management System for devices with operational limitations.
5. Infrastructure managers will update the technical and operational documentation of railway traffic control devices.
6. PKP Polskie Linie Kolejowe S.A. The Railway Lines Plant in Poznań will specify the provisions of the Technical Regulations of the Podstolice Station regarding the way trains are monitored by the traffic controller.
7. PKP Cargo S.A. shall implement:
   a) recommendation contained in the PKBWK Report No. PKBWK / 1/2015 approved by Resolution No. 4 / PKBWK / 2015 of 27 July 2015 with the following wording: PKP Cargo S.A. will take measures to comply with the rules on the use of consumable materials for speedometers authorized by manufacturers, including recording tapes,
   b) the order of the President of the Office of Rail Transport No. DBK-550/R-03/KB/12 of 30.05.2012, addressed to railway carriers with the obligation to install recording devices - digital cameras or video recorders in newly built and in operation railway

vehicles , in accordance with the recommendation of PKBWK – No PKBWK-076-305/RL/R/11 of 22.11.2011.

8. As part of the Safety Management System, infrastructure managers will develop a risk analysis program for equipment systems operated in accordance with the rules that were not required by the President of the Office of Rail Transport (including devices type MER-111401 and MER-111404), but the decision of the internal infrastructure manager and opinions of the Railway Institute. In the case of negative assessment - they will take appropriate actions.
9. As part of the safety management system of PKP Cargo S.A. it will complete the hazard register with the following elements:

   a) irregularities in the operation of rail traffic control devices,
   b) irregularities in the implementation of the recommendations of the State Railway Accident Investigation Commission.

3.2.4 Serious A04 category accident occurred on 30 August 2017 at 21:53 in the Smętowo station, in the station track No. 2, at km 457,485, on the railway line No. 131

On 30.08.2017 at 21:40, freight train no. TMS 564024– belonging to STK S.A. Wrocław, driven by a combustion engine vehicle driver, left the Morzeszyn station towards Smętowo station. The train was composed of the S200-303 series diesel locomotive and 6 cars. At 21:48, the passenger train MPE 54170 "POGORIA" of the PKP Intercity SA drove away from the Morzeszczyn station towards the Smętowo station, which had to pass through the Smętowo station without stopping on the station track No. 2, led by the driver of electric engine railway vehicles. Train composed of a locomotive and 11 cars and locomotive EP07-395 with the number EVN PL-PKPIC 91511140088-2. Both trains were located on the Morzeszczyn - Smętowo route and moved on the basis of transmitted signals of multiple linear self-blocking semaphores - type Eac (SBL). At the time from the opposite direction from the station of Twarda Góra, track No. 1 to the Smętowo station, the TDE freight train no. 752009 (carrier PKP CARGO S.A.) was approaching, which had to pass through the Smętowo station without stopping on the station track No. 1. Traffic officer and station adjusters at Smętowo station in accordance with the Technical Regulations of the Traffic Outpost and the applicable instructions of the administrator of PKP PLK S.A. prepared the path of the course, giving open signals at semaphores:

– $A^{1/2}$ –signal S2 (one continuous green light), X - signal S2 (one continuous green light) for train TDE 752009 for a drive without stop on track No. 1;

– $Z^{1/2}$signal S13 (two continuous orange lights) for the TMS train No. 564024 for entry onto the main side track No. 32.

The TMS 564024 train entered Smętowo station on track no. 32 at 21:51 and moved on this track at a uniform speed of about 17 km/h, all the way through. At that time, the MPE 54170

passenger train was approaching the Smętowo station, for which, after preparing the route (drive without stopping), the signal S2 (one continuous green light) was given on the entry semaphore $Z^{1/2}$ and the signal S2 was given on the exit semaphore C (one continuous green light).

At the time of signaling, the passenger train MPE 54170 was located at the penultimate distance sbl (fact confirmed by the recording from the video recorder of the locomotive EP07-395). The TMS train 564024 did not stop before the signal S1 indicating "Stop" (one red light) by the signpost semaphore no. L^2 located at track No. 32.

The driver of TMS no. 564024 train at the moment when the head of the train was at the height of the L^2 semaphore realized that on the semaphore the signal S1 "Stop" is broadcasted, he triggered emergency braking too late, which caused the train to continue towards intersection No. 24 and the train's head stopped 38 m behind the L^2 signpost semaphore.

At the same time, the MPE 54170 train traveled along station line No. 2 and after crossing No. 24 at a speed of 110 km / h collided (right side of the locomotive EP07-395) with the left side of the locomotive S200-303 of the TMS train 564024, located outside the fouling point (indicator W17) at junction No. 24. As a result of the collision, there was a derailment of the locomotive and seven passenger cars of the MPE 54170 train on the left side in the section between tracks No. 1 and 2. The head of the MPE 54170 stopped at kilometer 457.270 at a distance of 184 meters from the place of the clash. Derailment of the MPE 54170 train caused damage to track No. 1 and its non-occupied control devices, which consequently led to automatic change of image on the entry semaphore $A^{1/2}$ from signal S2 (green continuous) to signal S1 (red continuous) for the TDE freight train No. 752009, which stopped before this semaphore. The traffic officer at the station Smętowo, after hearing the roar and noticing the cloud of dust, realized that there had been an accident. After unsuccessful attempts to call the train drivers MPE 54170 and TMS 564024 on the radio, called the 112 emergency services informing about the railway accident and demanded the arrival of Emergency Medical Services, Fire Brigade and Police. Then he informed the station traffic operators of Morzeszczyn and Twarda Góra not to send any trains to Smętowo. The trains had marked: front of the train with Pc1 signal (three white lights), the end of the MPE 54170 train the Pc5 signal (two red lights), and the TMS train 564024 with the Pc5 signal (two reflective shields). In order to eliminate the effects of the accident, station tracks No. 1, No. 2, No. 31 and No. 32 were closed. As a result of the accident, 28 passengers of the MPE 54170 train were injured, including 10 heavily injured. The units of the Fire Brigade, the Police and the Ambulance Service arrived at the scene.

As a result of the decision of the Chairman of the PKBWK to take over the proceedings by the Research Team, taking into account the provisions of art. 28e, para. 4 of the "Rail Transport Act", the Commission notified this fact to the European Union Rail Agency ("EUAR") via the IT system "ERAIL" on 06 September 2017 and the above event was registered in the ERAIL database under

number PL-5422. The Commission prepared the report No. KBWK / 03/2018 from the proceedings.

Recommendations of the State Commission on Rail Accident Investigation from the report no. PKBWK/03/2018

The PKBWK research team recommends the implementation of the following activities:

1. STK S.A. shall execute the order of the President of the Office of Rail Transport No. DBK-550/R03/KB/12 of 30.05.2012, addressed to railway carriers with the obligation to install recording devices - digital cameras or video recorders in newly built and in operation railway vehicles , in accordance with the recommendation of PKBWK – No PKBWK-076-305/RL/R/11 of 22.11.2011.
2. As part of the safety management system, STK S.A. :
   a) will analyze and evaluate the risk for cases of running railway traction vehicles with the intention of shutting down the SHP and CA alertness devices and not complying with the provisions of § 63 para. 13 of Instructions Ir-1 (R-1),
   b) will increase as part of the safety improvement program for the following years: the number of speedometer tape controls and the number of inspection rides in the traction vehicle cabins,
   c) will increase the number of security audits in the framework of the security improvement program for the coming years, in particular with regard to the transport process, with particular emphasis on supervision of the work of drivers and rolling stock auditors.
3. STK SA will increase supervision over the work of train drivers in terms of railway safety, and especially driving vehicles with SHP and CA devices turned on.
4. PKP PLK S.A. as part of periodic instructions for directly related persons with the railway traffic will put a special emphasis on:
   a) the need for employees to check traffic posts before giving the permission signal on the semaphore, whether the route is prepared, i.e. whether it is properly set and secured and there are no obstacles to drive ", which is required by § 40 para. 1, 2 and 3 of the Ir-1 instruction,
   b) correct formulation of telephoneograms and radiographs announcers,
   c) good practice of informing by radio the drivers of railway vehicles driving by traffic police officers about changes in the traffic organization of a given train within the station, in particular about unplanned stops at the station, in order to pass other trains.
5. STK S.A. verify the correctness of the inspections performed:
   a) train radio equipment operated by subcontractors and increase the supervision over the performance of these services,

b) traction vehicles in order to comply with the provisions of the Maintenance System Documentation of this series of vehicles and increase the supervision over the performance of these services.

6. STK S.A. will take actions to supervise the train radio devices in terms of compliance of the time of these devices with real time.
7. The location of the "W3" indicator at track No. 2 at kilometer 457,486 at Smętowo station is not justified by the current internal regulations. PKP PLK S.A. Zakład Linii Kolejowych in Gdynia, at the request of the PKBWK, he liquidated this indicator during the proceedings.
8. Infrastructure manager of PKP PLK S.A. will take measures to adapt the internal rule Ie-4 (WTB-E10) in the scope of protective routes taking into account train journeys by the station at different speeds, when these trains enter the route equipped with in a multi-block automatic line lock. To obtain an effective protection route of 50 m to the turnoff of the Rz24 and Rz25 crossroads after the L^2 and K^2 signposting semaphores with the speed of trains passing by 120 km / h through the station on the main main track, the manager will consider the possibility of moving the semaphores to the Sm2 control room by a minimum of 28 meters, or, without moving the semaphores, build gauge blocks at the extension of track No. 32 and 31 at least 50 m behind the^2 i K^2 semaphores. The current application of the protection route is in accordance with the applicable internal regulations of the Ie-4 manager (WTB-E10).
9. As part of the system approach to safety, railway infrastructure managers will analyze:
   - - protective routes used at traffic posts with similar conditions of traffic organization, including the track system;
   - - the validity of currently built-in indicators W3.
10. Infrastructure manager PKP PLK S.A.. until the protection route for the course of z^2_{32} and z^2_{31} before the intersections of switches 24 and 25, will be introduced in the Technical Standpoint of the Movement Post (RTPR) - station Smętowo:
    a) before proceeding with the preparation of the route for the train entry to track No. 2 from the Z-semaphore for route Z^1_2, the duty of the train operator to make sure that the train stops after completing the course on track No. 32,
    b) before proceeding with the preparation of the route for the train entry to track No. 1 from semaphore A for route A^1, the duty of the train operator to make sure that the train stops after completing the course on track No. 31.

4. Recommendations on improving safety issued by the Commission in annual reports pursuant to art. 28l par. 6 of the Act of 28 March 2003 on railway transport

4.1. Recommendations issued in 2017, published in the 2016 Annual Report of the PKBWK.

Based on Article. 28l par. 6 of the Railway Transport Act of March 28, 2003, the State Commission for Railway Accident Investigation issued in 2017 in the Annual Report for 2016 the following recommendations regarding the improvement of safety:

1) Rail carriers and entities responsible for the maintenance of railway vehicles as part of their management systems, they will undertake activities aimed at reducing the number of events caused by train disconnection.

   The recommendation results from the recording of a large number of C68 category events on the railway network and small involvement of entities maintaining and operating railway vehicles in analysis and elimination of the primary, direct and indirect causes of these incidents, and the risk of escaping broken parts of the train.

2) Railway infrastructure managers will undertake actions aimed at minimizing the causes and preventing the occurrence of events and improving the organization in removing the effects of these incidents on rail and road crossings and rail level crossings by the railway infrastructure manager and emergency services, by introducing additional identification markings for intersections at the level of rails containing the necessary information for the 112 emergency number operator.

   The placement of additional information is to enable quick contact with the railway infrastructure manager, and in the event of an incident involving a railway vehicle causing adverse consequences for human health, property or the environment and other irregularities, or risks at the level crossing or crossing, enable quick notification of the departments concerned to start the rescue operation by the operator of the emergency number.

3) Railway infrastructure managers will undertake activities aimed at reducing the number of accidents at level crossings. Particularly to the increasing number of accidents at level crossings of category A, B and D, railway infrastructure managers will take appropriate corrective and preventive actions in accordance with functioning security management systems (SMS). Managers should complete the implementation of the provisions of the Ordinance of the Minister of Infrastructure and Development of 20 October 2015 on the technical conditions to be met by the intersection of railway lines and railway sidings with roads and their location.

   The recommendation results from an increase in the number of accidents on level crossings of road categories A, B and D and the obligation to comply with the provisions of the executive provisions on ensuring the visibility of the train face from a public road.

4) Railway undertakings and rail infrastructure managers shall undertake actions aimed at reducing the number of incidents caused by the loading, acceptance or driving of a railway vehicle on an improperly laid unprotected route or improper operation of railway traffic control.

   The recommendation results from a large increase in the number of B03 category incidents and C43 incidents.

The above recommendations were directed to the President of Urzędu Transportu Kolejowego, who forwarded them to railway market entities, over which the President of UTK exercises statutory supervision.

4.2 Recommendations issued in this 2017 Annual Report.

Based on Article. 28l par. 6 of the Railway Transport Act of March 28, 2003, the State Commission on Railway Accident Investigation issues the following recommendations in this Annual Report for 2017 on improving safety:

1) Railway undertakings shall undertake actions aimed at eliminating railway incidents caused by the failure of the railway vehicle not to stop before the signal "Stop" or in the place where it should stop, or to start the railway vehicle without the required permit

   The recommendation results from a significant increase in the number of C44 events and the persistence of a large number of category B04 events. The reasons for these events may be related to, for example, training the driver with improper driving techniques, exceeding the working time standards, lack of knowledge of the route, etc.

2) Railway undertakings performing cargo transport and entities responsible for the maintenance of freight wagons (ECM) within their management systems will undertake activities aimed at eliminating events caused by rupture of a train or a maneuvering component.

   The recommendation results from a significant increase in the number of C68 category events (rupture of a train or maneuvering composition) on the railway network. Railway undertakings performing freight transport and entities responsible for the maintenance of freight wagons (ECM) should increase supervision and take effective measures to eliminate such events.

3) Railway infrastructure managers will undertake activities aimed at verifying the road communication system as a whole, functionally connected in the process of designing modernization or revitalization works of railway lines with railway crossings. During the design it is reasonable to carry out a project of organizational change of such roads in the appropriate area of interaction in the vicinity of rail and road crossings in such a way that after reorganizing this system it was possible to redirect traffic to neighboring trips of the same or a higher category in order to channel traffic at one point.

This action should lead to the elimination of unnecessary rail and road crossings, and the distance between rail and road crossings was not less than 3 km (§23 item 2 of the Regulation of the Minister of Infrastructure and Development of 20 October 2015 on the technical conditions to be met by the intersection of railway lines and railway sidings with roads and their location (Dz.U. of 2015 item 1744), hereinafter referred to as "Regulation 1744 on intersections".

The local administration authorities and road administrator should cooperate in achieving the above objective with the infrastructure manager in a given area covered by the above-mentioned works. In the place of liquidation of the cat. D crossing, in the case of pedestrian traffic, safe pedestrian communication should be ensured.

4) Railway infrastructure managers will continue activities aimed at reducing the number of accidents at level crossings for all categories: A, B, C and D.

   The recommendation results from the increase in the number of accidents in 2017 at level crossings of categories A, B, C and D.

5) Railway infrastructure managers will implement a project of additional identification of rail and road crossings and rail level transitions, containing the necessary information for the 112 emergency number operator, following the example of the project implemented by PKP PLK S.A.

   The recommendation applies to railway infrastructure managers other than PKP PLK S.A.

   Placing additional information enables quick contact with the railway infrastructure manager, and in the event of an incident involving a railway vehicle causing negative consequences for human health and other risks at the railway crossing / crossing, it enables quick notification of the concerned services carrying out rescue operations.

6) Railway infrastructure managers will check the appropriateness of placing the B-20 "STOP" signs before category D road crossings, on which the visibility conditions are maintained and the speed limit of the train is not enforced (as shown in Annex No. 3 Part B item 7 of Regulation 1744 on intersections)).

   In the event that the B-20 STOP sign is not allowed, the infrastructure managers will oblige the road administrator to remove it.

   Setting the "STOP" mark before the rail-road crossing of a category on which the scheduled speed applies, despite being sure that the train is not approaching, prevents smooth passage of road vehicles. *In certain cases, the illiquid passage of a road vehicle may lead to the train being hit by this vehicle.*

The above recommendations are forwarded to the President of UTK, which will transfer these recommendations to the final recipients - that is, entities of the railway market, over which the President of UTK exercises statutory supervision.

5. Implementation of recommendations issued in 2017 by the PKBWK (based on information from the Office of Rail Transport - UTK)

The State Commission on Railway Accident Investigation received on 27 April 2018. from the Office of Rail Transport information on the implementation of recommendations issued by the Commission in 2017.

In order to improve the implementation of the recommendations of the PKBWK by railway market entities in UTK, a questionnaire was developed. Information on the implementation of the Commission's recommendations were submitted to the President of UTK by railway market entities in the form of questionnaires.

5.1. Analysis of information on the implementation of recommendations.

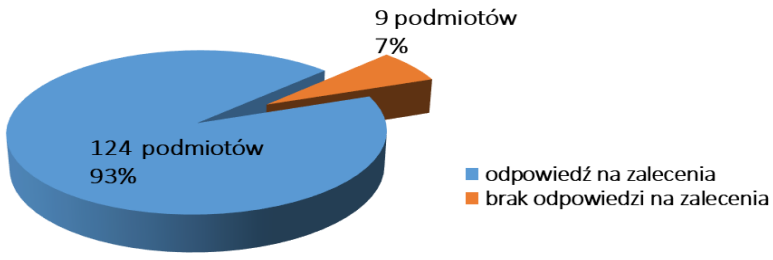
The status of implementation of recommendations based on information provided by UTK is as follows:

Recommendations issued by the PKBWK in 2017. The President of UTK transferred 133 entities for implementation.

Many entities perform several functions at the same time, which means that among the above-mentioned entities:

- 66 is only a certified railway carrier (PK),
- 28 is only the entity responsible for the maintenance of wagons (ECM),
- 28 is both a railway carrier and an entity responsible for maintenance of cars (PK + ECM),
- 8 is only an authorized manager of the railway infrastructure (ZI),
- 1 entity is both the infrastructure manager and the entity responsible for the maintenance of wagons (ZI + ECM),
- 1 entity is both an infrastructure manager and a railway carrier (ZI + PK),
- 1 entity performs all three functions: the administrator (ZI), the carrier (PK) and the entity responsible for the maintenance of the wagons (ECM).

Diagram 2. A general list of entities' responses to the letter (questionnaire) of the President of UTK



9 entities 7%

124 entities 93%

response to recommendations

no response to recommendations

The vast majority, as many as 124 (93%) entities, filled in the form prepared by the Office of Rail Transport informing about the implementation status of a specific recommendation, describing the actions undertaken, listing the procedures and instructions used to conduct the management system analysis and the stage and percentage of implementation.

However, 9 entities (7%) did not provide information on the extent of implementation of accident recommendations or actions aimed at their implementation, among them 5 entities responsible for maintenance and 4 railway carriers.

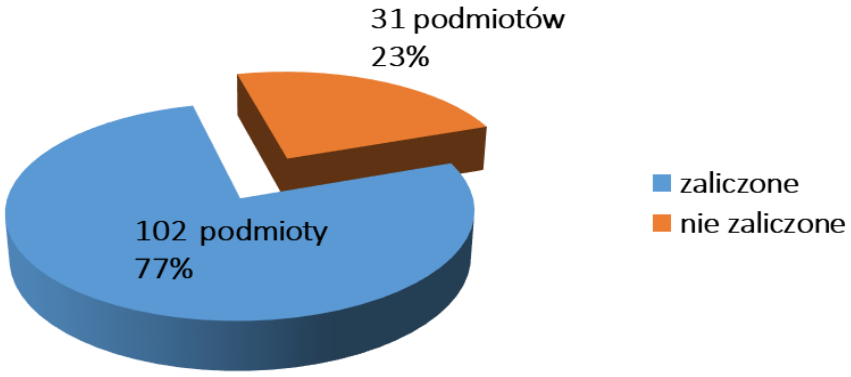
In relation to railway sector companies, whose recommendation concerned, and who did not address it satisfactorily or did not provide information on the implementation status of the recommendations,

the President of UTK will send letters to supplement and present a plan for implementing the recommendations. In the absence of a proper response from the entities, the President of UTK will take appropriate supervisory measures.

According to the information provided by UTK, each recommendation indicated the average percentage of implementation of a given recommendation, which for the needs of the assessment was calculated as an arithmetic average based on the values declared by market entities.

A positive assessment of the implementation of the recommendations contained in the PKBWK reports was granted only when the entity was included in all the recommendations that concerned it in a given report.

Diagram 3. **Assessment of the implementation level of recommendations from the 2016 Annual Report**



31 entities 23%; 102 entities 77%; passed; not passed

Recommendations **"passed"** - i.e. those where, according to the UTK, declared activities of 102 railway market entities are heading towards the correct implementation of the recommendations of the PKBWK.

Recommendations "**not passed" –** i.e. those where, in the opinion of the UTK, the proposed activities of 31 entities do not lead to the implementation of the recommendations.

Table 4. List of evaluations of entities' responses to the implementation of individual recommendations from the 2016 Annual Report (*based on information provided by UTK*)

	Recommendation 1 (PK+ECM)	Recommendation 2 (ZI)	Recommendation 3 (ZI)	Recommendation 4 (PK+ZI)
Pertains to	**125**	**11**	**11**	**105**
positive	**106**	**11**	**11**	**85**
negative	**19**	**0**	**0**	**20**

In 2017, the PKBWK issued four recommendations in the 2016 Annual Report - the average percentage of completion of recommendations made by the Commission is included in the table below.

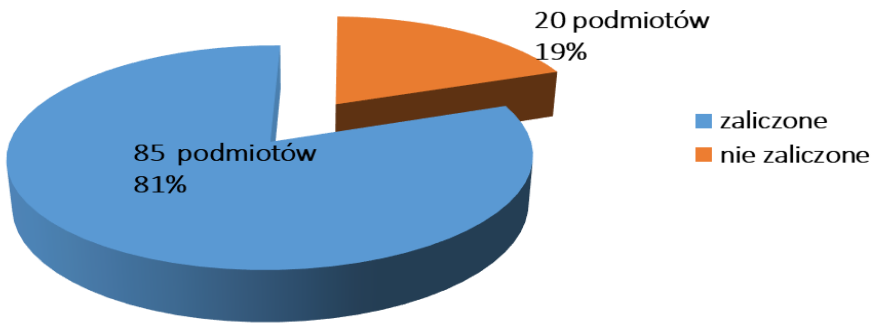
Table 5. **Status of implementation of the recommendations of the PKBWK issued in 2017 published in the Annual Report of the PKBWK for 2016** (*based on information provided by UTK*)

Recommendations resulting from the 2016 Annual Report of PKBWK (published in 2017)	Number of entities to which the recommendation applies	Degree of implementation of recommendations *)			*) The implementation stage is not specified	*) No answer was given (no questionnaire sent)	**Average** percentage (%) of recommendation completion by the entities listed in column *2*
		Implemented	Being implemented	Alternative actions			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*

Recommendation 1	**125**	**78**	**30**	**1**	**7**	**9**	**79**
Recommendation 2	**11**	Not applicable.	**11**	Not applicable.	Not applicable.	Not applicable.	**38**
Recommendation 3	**11**	**4**	**7**	Not applicable.	Not applicable.	Not applicable.	**62**
Recommendation 4	**105**	**64**	**32**	**2**	**2**	**5**	**78**

*) pertains to the number of entities

Diagram 4. **Evaluation of the manner of implementing the recommendations from Report No. PKBWK/01/2017**



20 entities 19%; 85 entities 81%; passed; not passed

Passed - in the opinion of UTK, declared actions of 85 railway market entities are heading towards the correct implementation of the recommendations of the PKBWK.

Not passed - in the opinion of the UTK, the declared proposals of activities of 20 entities do not lead towards implementing the recommendations.

Table 6. List of evaluations of entities' responses to the implementation of individual recommendations from Report no. PKBWK/01/2017 (*based on information provided by UTK*)

	Recommendation 1 (PK+ZI)	Recommendation 2 (ZI)	Recommendation 3a (ZI)	Recommendation 3b (ZI)	Recommendation 3c (PKP PLK)*	Recommendation 3d (ZI)
Pertains to	**105**	**11**	**11**	**11**	**1**	**11**
positive	**85**	**11**	**11**	**11**	**0**	**10**
negative	**20**	**0**	**0**	**0**	**1**	**1**

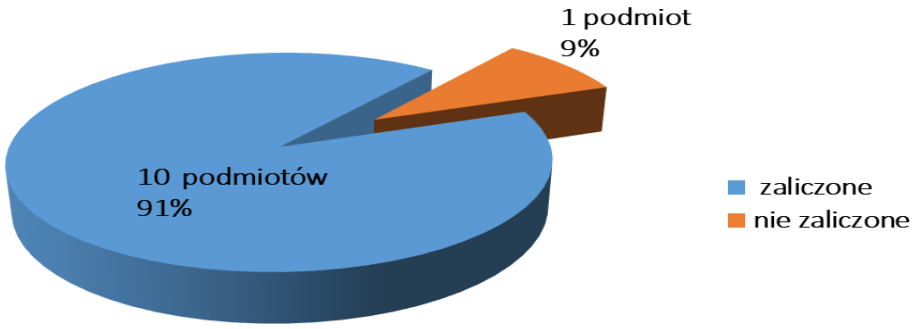
(PKP PLK)* – means PKP Polskie Linie Kolejowe S.A.

Table 7. **Status of implementation of the recommendations of the PKBWK issued in the Report of the PKBWK no. PKBWK/01/2017**(*based on information provided by UTK*)

Recommendations resulting from Report no. PKBWK/01/2017	Number of entities to which the recommendation applies	Degree of implementation of recommendations *)			*)implementation stage not specified	*)No answer was given (no questionnaire sent)	**Average** percentage (%) of recommendation completion by the entities listed in column *2*
		Implemented	Being implemented	Alternative actions			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Recommendation 1	**105**	**64**	**32**	**1**	**2**	**6**	**78**
Recommendation 2	**11**	**8**	**2**	Not applicable.	**1**	Not applicable.	**70**
Recommendation 3a	**11**	**3**	**5**	Not applicable.	**3**	Not applicable.	**34**
Recommendation 3b	**11**	**8**	**1**	Not applicable.	**2**	Not applicable.	**67**
Recommendation 3c	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 3d	**11**	**8**	**1**	Not applicable.	**2**	Not applicable.	**67**

*) pertains to the number of entities

Diagram 5. **Evaluation of the manner of implementing the recommendations from Report No. PKBWK/02/2017**



1 entity 9%; 10 entities 91%; passed, not passed

Passed - in the opinion of UTK, declared actions of 10 railway market entities are heading towards the correct implementation of the recommendations of the PKBWK.

Not passed - in the opinion of the UTK, the declared proposals of activities of 1 entity do not lead towards implementing the recommendations.

	Recommendation 7 (PKP PLK)	Recommendation 8 (ZI)	Recommendation 9 (PKP PLK)	Recommendation 10 (ZI)	Recommendation 11 (ZI)
Pertains to	**1**	**11**	**1**	**11**	**11**
positive	**1**	**11**	**1**	**11**	**10**
negative	**0**	**0**	**0**	**0**	**1**

Table 8. List of evaluations of entities' responses to the implementation of individual recommendations from Report no. PKBWK/02/2017 (*based on information provided by UTK*)

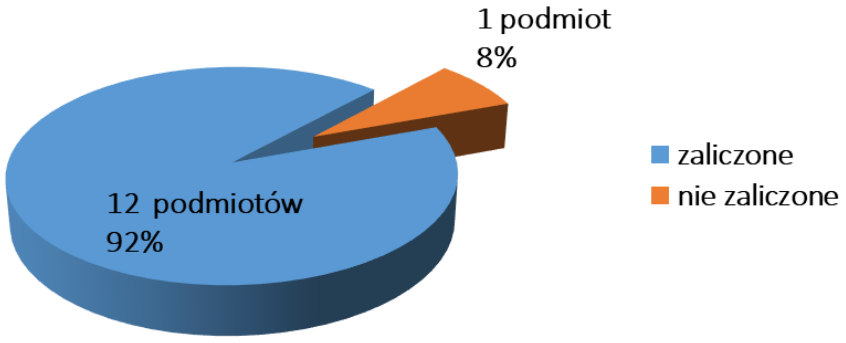
	Recommendation 1 (ZI)	Recommendation 2 (PKP PLK)	Recommendation 3 (PKP PLK)	Recommendation 4 (PKP PLK)	Recommendation 5 (PKP PLK)	Recommendation 6 (ZI)
Pertains to	**11**	**1**	**1**	**1**	**1**	**11**
positive	**11**	**1**	**1**	**1**	**1**	**11**
negative	**0**	**0**	**0**	**0**	**0**	**0**

Table 9. **Status of implementation of the recommendations of the PKBWK issued in the Report of the PKBWK no. PKBWK/02/2017**(*based on information provided by UT*K)

Recommendations resulting from Report no. PKBWK/02/2017	Number of entities to which the recommendation applies	Degree of implementation of recommendations *)			*)implementation stage not specified	*)No answer was given (no questionnaire sent)	**Average** percentage (%) of recommendation completion by the entities listed in column 2
		Implemented	Being implemented	Alternative actions			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Recommendation 1	**11**	**2**	**2**	Not applicable.	**7**	Not applicable.	**20**
Recommendation 2	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 3	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 4	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 5	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 6	**11**	**3**	Not applicable.	Not applicable.	**8**	Not applicable.	**20**
Recommendation 7	**1**	Not applicable.	**1**	Not applicable.	Not applicable.	Not applicable.	**80**
Recommendation 8	**11**	**9**	**1**	Not applicable.	**1**	Not applicable.	**70**
Recommendation 9	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 10	**11**	**8**	**1**	Not applicable.	**2**	Not applicable.	**64**
Recommendation 11	**11**	**7**	**1**	Not applicable.	**2**	**1**	**71**

*) pertains to the number of entities

Diagram 6. **Evaluation of the manner of implementing the recommendations from Report No. PKBWK/03/2017**



1 entity 8%; 12 entities 92%; passed, not passed

Passed - in the opinion of UTK, declared actions of 12 railway market entities are heading towards the correct implementation of the recommendations of the PKBWK.

Not passed - in the opinion of the UTK, the declared proposals of activities of 1 entities do not lead towards implementing the recommendations.

Table 9. List of evaluations of entities' responses to the implementation of individual recommendations from Report no. PKBWK/03/2017 (*based on information provided by UTK*)

	Recommendation 1	Recommendation 2	Recommendation 3 (ZI)	Recommendation 4	Recommendation 5 (ZI)	Recommendation 6	Recommendation 7a	Recommendation 7b (P	Recommendation 8 (ZI)	Recommendation 9a	Recommendation 9b
Pertains to	**11**	**11**	**11**	**1**	**11**	**1**	**1**	**2**	**11**	**1**	**1**
positive	**11**	**11**	**11**	**1**	**11**	**0**	**1**	**2**	**11**	**1**	**1**
negative	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

*Orlen KolTrans - shall mean Orlen KolTrans Sp. z o.o.

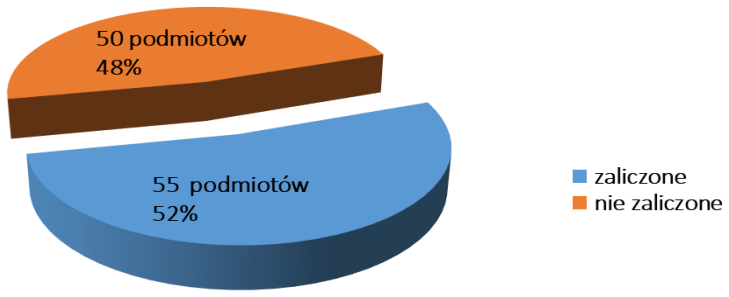
Table 10. **Status of implementation of the recommendations of the PKBWK issued in Report no. PKBWK/03/2017**

(*based on information provided by UT*K)

Recommendations resulting from Report no. PKBWK/0/2017	Number of entities to which the recommendation applies	Degree of implementation of recommendations *)			*)implementation stage not specified	*)No answer was given (no questionnaire sent)	Average percentage (%) of recommendation completion by the entities listed in column *2*
		Implemented	Being implemented	Alternative actions			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Recommendation 1	**11**	**4**	Not applicable.	Not applicable.	**7**	Not applicable.	**28**
Recommendation 2	**11**	**1**	**2**	Not applicable.	**8**	Not applicable.	**8**
Recommendation 3	**11**	**2**	**1**	Not applicable.	**8**	Not applicable.	**12**
Recommendation 4	**1**	Not applicable.	**1**	Not applicable.	Not applicable.	Not applicable.	**10**
Recommendation 5	**11**	**2**	**9**	Not applicable.	Not applicable.	Not applicable.	**31**
Recommendation 6	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 7a	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 7b	**2**	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	**50**
Recommendation 8	**11**	**1**	**3**	Not applicable.	**7**	Not applicable.	**17**
Recommendation 9a	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**
Recommendation 9b	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	Not applicable.	**100**

*) pertains to the number of entities

Diagram 7. **Assessment of the implementation of the recommendations from the Report No. PKBWK / 05/2017**



50 entities 58%; 55 entities 52%; passed; not passed

Passed - in the opinion of UTK, declared actions of 55 railway market entities are heading towards the correct implementation of the recommendations of the PKBWK.

Not passed - in the opinion of the UTK, the declared proposals of activities of 50 entities do not lead towards implementing the recommendations.

Table 11. List of evaluations of entities' responses to the implementation of individual recommendations from Report no. PKBWK/02/2017 (*based on information provided by UTK*)

	Recommendation 1 (PK+ZI)	Recommendation 2 (PK+ZI)	Recommendation 3 (ZI)	Recommendation 4 (ZI)	Recommendation 5 (PKP Cargo S.A., ORLEN KolTrans)
Pertains to	**105**	**105**	**11**	**11**	**2**
positive	**57**	**88**	**11**	**11**	**2**
negative	**48**	**17**	**0**	**0**	**0**

Table 12. **Status of implementation of the recommendations of the PKBWK** issued in the Report of the PKBWK no. PKBWK/05/2017(*based on information provided by UTK*)

Recommendations resulting from Report no. PKBWK/01/2017	Number of entities to which the recommendation applies	Degree of implementation of recommendations *)			*)implementation stage not specified	*)No answer was given (no questionnaire sent)	Average percentage (%) of recommendation completion by the entities listed in column *2*
		Implemented	Being implemented	Alternative actions			
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Recommendation 1	**105**	**18**	**41**	**12**	**30**	**4**	**36**
Recommendation 2	**105**	**31**	**50**	**5**	**15**	**4**	**47**
Recommendation 3	**11**	**2**	Not applicable.	Not applicable.	**9**	Not applicable.	**18**
Recommendation 4	**11**	**1**	**2**	Not applicable.	**8**	Not applicable.	**15**
Recommendation 5	**2**	**1**	**1**	Not applicable.	Not applicable.	Not applicable.	**50**

*) pertains to the number of entites

A detailed discussion of the implementation of the recommendations issued by the Commission in 2017 is included in the Annex to this Annual Report prepared on the basis of feedback from the Office of Rail Transport.

5.2. Summary of the implementation of the Commission's recommendations (based on the position of the President of UTK)

The President of UTK, analyzing the collected data on the implementation of recommendations, obtained from authorized infrastructure managers, certified railway carriers, entities in charge of maintenance and entities operating on the basis of safety certificates, states that:

- the level of implementation of recommendations by operating entities should be positively assessed based on a safety management system or other adopted management system (infrastructure managers, railway carriers, siding users),
- attention should be paid to raising the awareness of rail operators and their employees regarding the responsibility for the state of safety in railway transport.

As part of the supervision over the implementation of recommendations issued by the Commission and addressed to the President of UTK, the President of UTK on the basis of the supervision has obtained information on what preventive measures and measures to improve safety have been implemented or are implemented by individual participants of the rail market.

In relation to the entities whose recommendation concerned and which did not respond, as well as those for which the proposed method of implementing the recommendations was not adopted, the President of UTK will issue calls to obtain feedback on the manner of implementing the recommendations. In the absence of response to calls, as part of its supervisory powers over the implementation of recommendations issued by the Chairman of the Commission, the President of UTK will take further supervisory activities.

6. Analysis of events occurring in 2017

The increase in the total number of events

In 2017, the total number of incidents reported to the Commission by infrastructure managers and users of railway sidings appropriate to the place of the incident increased by 30.8% compared to 2016, of which:

- there were 4 serious accidents for which the Commission conducted the proceedings (in 2016 there were 2 serious railway accidents),
- the number of accidents increased by 8.0%,
- the number of incidents increased by 49.1%.

Accidents

The increase in the number of accidents occurred in 19 categories (from 40 all category B events).

The largest increase in the number of accidents occurred in the following categories:

- B12 - damage or incorrect operation of railway traffic control devices - from 1 to 3 accidents - ie by 200% incurring,
- B28 - hovering over lying (overturned) tree on the track or damaged traction network (damage to electric collectors on traction vehicles) caused by strong gusty winds (in 2016 there were 5 events, in 2017 - 15 events) - by 200%,
- B17 - improper loading, unloading, irregularities in cargo securing or other irregularities in loading activities (in 2016 events; in 2017 - 8 events) - by over 166%,
- B30 - malicious, hooligan or reckless offenses (eg throwing a train with stones, stealing a cargo from a train or maneuvering composition in motion, arranging an obstacle on the track, devastation of the surface) from 3 to 6 accidents - by 100%,
- B37 - rupture of a train or maneuvering composition, which caused the converging of wagons (they did not exist in 2016, in 2017 there was one incident) - by 100%,
- B05 - no caution after the railway vehicle passes an automatic interval semaphore indicating the signal "Stop" (not existing in 2016, in 2017 - 1 event occurred) - by 100%,
- B38 - driving into a reduced traction network, damaged as a result of attempts to steal wire wire and carrying rope (no event occurred in 2016, in 2017 - 1 event) - by 100%,
- B23 - hovering a railway vehicle on a road vehicle (other road machine, agricultural machine) or vice versa, in addition to rail-road crossings at stations and routes or on the communication and access track to the siding (in 2016 it took place 6 events; in 2017 - 10 events) - by over 66%,
- B00 - overlapping of several causes simultaneously, creating equivalent causes (in 2016, there were 12 events, in 2017 - 19 events) - by over 58%,

- B18 - hovering a railway vehicle on a road vehicle (another road machine, agricultural machine) or vice versa at a railway crossing with road tolls - cat. A according to the transit record - (in 2016 there were 8 events, in 2017 - 11 events) - over 37%,
- B35 - events with people associated with the movement of a railway vehicle - jumping, falling out of a train, a railway vehicle, strong access or rapid braking of a railway vehicle - (in 2016 there were 22 events, in 2017 - 30 events) - over 36%,
- B20 - collision of a railway vehicle with a road vehicle (other road machine, agricultural machine) or vice versa on a railroad crossing equipped with into an automatic crossing system with traffic lights and no gates (cat. C) - from 22 to 27 - by over 22%.

The biggest decrease in the number of accidents in relation to the previous year occurred in the following categories:

- B06 - exceeding the highest permitted speed (in 2016 they occurred 3 events; in 2017 - 1 event) - by over 66%,
- B24 - fire on a train, maneuvering station or in a railway vehicle (in 2016 there were 3 events, in 2017 - one event) - by over 66%,
- B31 - collision of a railway vehicle with people while crossing the tracks on a railroad crossing or guarded passage (in 2016 there was 6 events; in 2017 - 2 events) - over 66%,
- B07 - execution of a maneuver posing a threat to train traffic safety (in 2016 there were 4 events, in 2017 - 2 events) - by 50%,
- B15 - premature termination of the path or canceling the closure and translating the crossover under the railway vehicle (in 2016 there were 24 events; in 2017 - 12 events) - by 50%,
- B16 - incorrect combination of train or maneuvering composition (in 2016 they occurred 2 events; in 2017 - 1 event) - by 50%.

Incidents

In relation to the previous year, in 2017 there was once again a significant increase in the number of incidents reported by 49.1%.

The increase in the number of incidents results among others from:

- amendments to the Ordinance of the Minister of Infrastructure and Construction dated March 16, 2016 on major accidents, accidents and incidents in railway transport in the scope of qualifying events related to the rupture of a train or maneuvering composition, which did not cause the wagons to collapse as a C68 category incident, until now such events were treated as potentially dangerous situations (operational difficulties),
- increase in the number of events in categories C64, C66, C68, (in 2016 in these categories a total of 276 incidents were recorded, and in 2017 a total of 669 incidents were recorded in these categories),
- Statistics on railway incidents of railway siding users, in line with changes introduced to national regulations,

- more rigorous classification of potentially dangerous situations as incidents by railway committees, situations previously considered as operational difficulties due to the actions of the State Railway Accident Investigation Commission, the Railway Transport Office and infrastructure managers and railway carriers.

The increase in the number of incidents occurred in 15 categories (from 27 all category C events).

Areas where the number of incidents has increased include in particular:

- C42 - acceptance of a railway vehicle for a station on a closed or busy track (in 2016 there were no events in this category, in 2017 - there were 5 events) - by 500%,
- C66 - stopping the road vehicle before a closed turn (halfway) and damage to traffic signals or traffic lights, on which were signals warning of an approaching train, without collision with a railway vehicle (in 2016 there were 52 events in this category, in 2017 - 171 events occurred) - by over 228%,
- C61 - criminal attack (driving a train under the threat of death by an aggressive attacker, physical assault on the driver by an unauthorized person (in 2016 there was no event in this category, in 2017 - two events occurred) - by 200%,
- C69 - overlapping of several causes simultaneously, creating equivalent causes (in 2016, there were 8 events in this category, in 2017 - there were 21 events) - by over 162%,
- C68 - rupture of a train or maneuvering composition, which did not cause the trains to collapse (in 2016 there were 161 events in this category, in 2017 - 373 events) - over 131%,
- C50 - improper loading, unloading, irregularities in cargo securing or other irregularities in loading activities (in 2016 there were 11 events in this category, in 2017 - there were 25 events) - by over 127%,
- C57 - fire of a construction object and vegetation in the immediate vicinity of railway tracks, after which normal rail traffic takes place (in 2016 they occurred 2 events; in 2017 - 4 events) - by 100%,
- C48 - premature ending of the route or repeal of the closure and postponement of the crossover under the railway vehicle (in 2016 there was no event in this category, in 2017 - 1 incident) - by 100%,
- C52 - incorrect operation of railway traffic control devices (2 events occurred in 2016, 4 events in 2017) - by 100%,
- C64 - malicious, hooliganism or reckless acts (eg throwing a train with stones, stealing cargo from a train or maneuvering equipment in motion, arranging obstacles on the track, devastation of power equipment, communications, traffic control or surfaces and interference with these devices), injured or negative consequences for property or the

environment, posing a threat to passengers or train workers (in 2016 there were 63 events, in 2017 - 125 events) - by 98.4%,

- C44 - the railway vehicle does not stop before the signal "Stop" or in place, where it should stop or start a railway vehicle without the required permit (in 2016 there were 57 events, in 2017 - 82 events) - by 43.9%.

The largest decrease in the number of incidents occurred in the following categories:

- C49 - incorrect train schedule (2 events occurred in 2016, in 2017 - 0 events) - by 200%,
- C55 - a fire in a train or a railway vehicle that does not have adverse effects on property or the environment, without injuries (in 2016 it occurred 1 event; in 2017 - 0 events) - by 100%,
- C59 - uncontrolled release of dangerous goods from a wagon or packaging requiring intervention by the authorities or measures to eliminate fire, chemical or biological hazards at the station or on the route (15 events occurred in 2016, 1 event in 2017) - by 93 %.

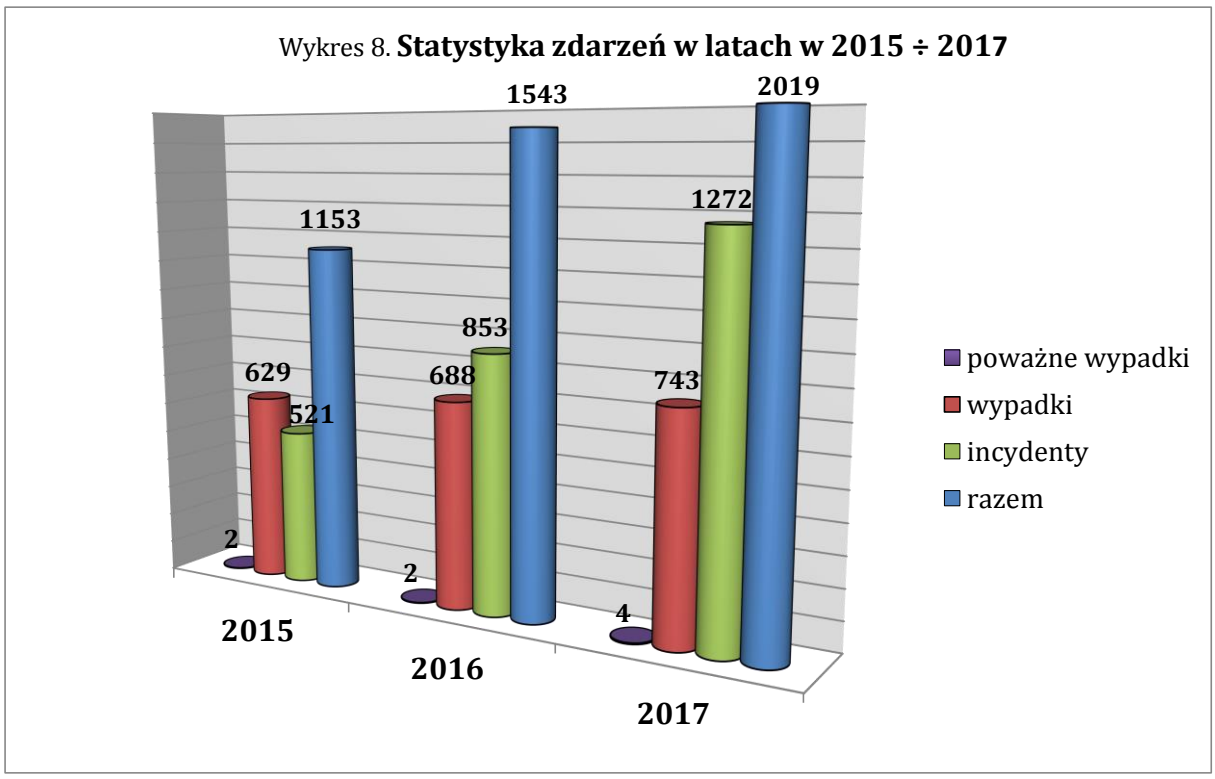


Diagram 8. Statistical data on events in 2015-2017; serious accidents; accidents; incidents; total

Injured by events

In 2017, compared to 2016, the number of deaths in railway events decreased by 1.1%, while the number of seriously injured persons decreased by 4.3% (Table 2 on page 12). In the group of victims (killed and seriously injured) the vast majority are persons hit by railway vehicles crossing the tracks in prohibited places or at rail level crossings, persons jumping in and out of railway vehicles in motion and persons traveling by rail and road. There was 1 person

(passenger) who was killed as a result of boarding a train already in motion and one employee of the road division of the quick removal group working on track works.

The basic data on the injured (killed and wounded) in 2015-2017 are illustrated below.

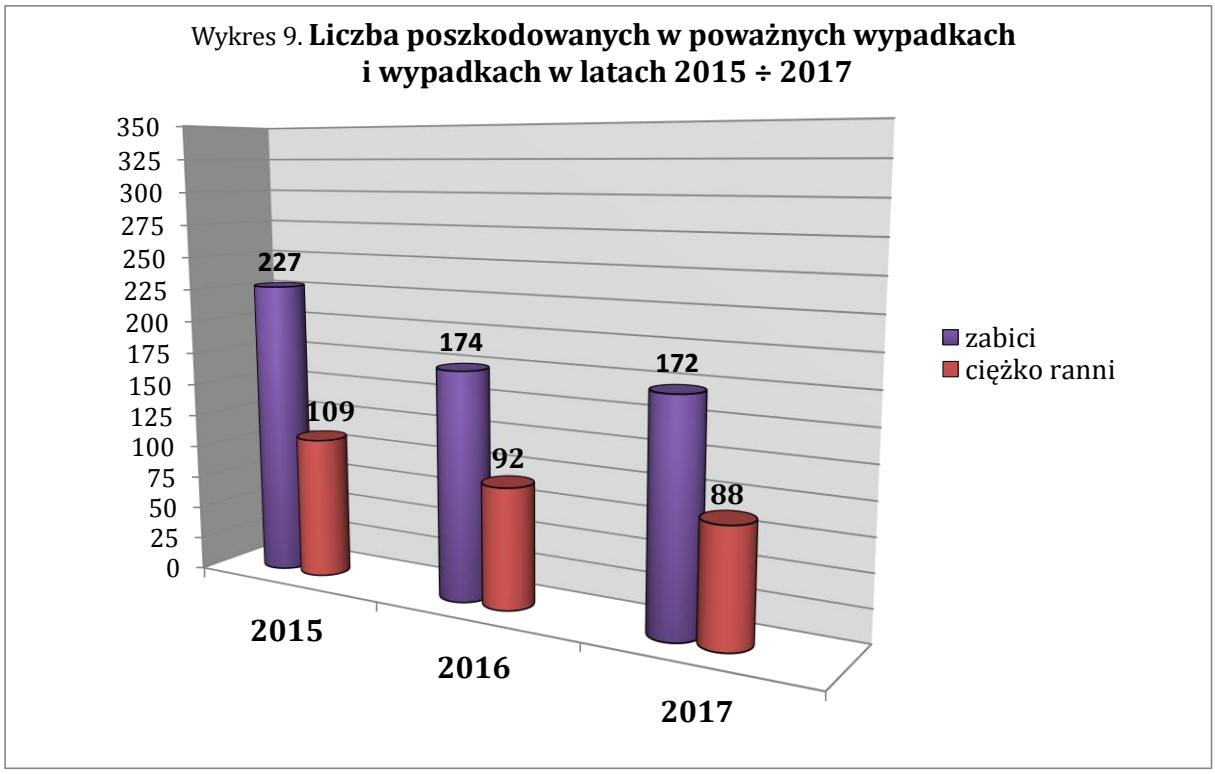


Diagram 9 Number of victims in serious accidents and accidents in 2015-2017; fatalities; serously injured

Events at level crossings

In 2017, compared to 2016, there was an increase in the total number of accidents at level crossings of categories A, B, C, D by more than 8.7%, including:

- at level crossings of category A, increase by 3 accidents,
- at level crossings of category B, increase by one accident),
- at category C railway crossings, an increase of 6 accidents,
- at level crossings in category D an increase of more than 7 accidents (also includes users of railway sidings).

The main causes of events when crossing rail-road vehicles are: failure to observe due caution, non-adaptation of speed to prevailing road conditions, failure to observe signs and other traffic signals, lack of reaction to train driver signals "attention" by the driver of the road vehicle when crossing the route and, consequently, driving directly to the approaching train. From the record of railway incidents in the PKBWK, it results that over 30 railway events involving the entry of a road vehicle took place. in a train (in the side of a railway vehicle in the train).

However, in some cases, at level A crossings, it was found that the cause of the accident was too late closing the gates or not closing the gates before the train entered the railroad crossing.

Increasing number of accidents on crossings cat. A, B, C and D should mobilize rail infrastructure managers to take appropriate corrective actions and preventive measures in accordance with the existing security management systems (SMS). Particular analysis under the safety management system should be subject to internal regulations (including regulations and records) for level-A and B level crossings. In order to improve the conditions for crossing railway and road crossings, road infrastructure managers should carry out periodic inspections.

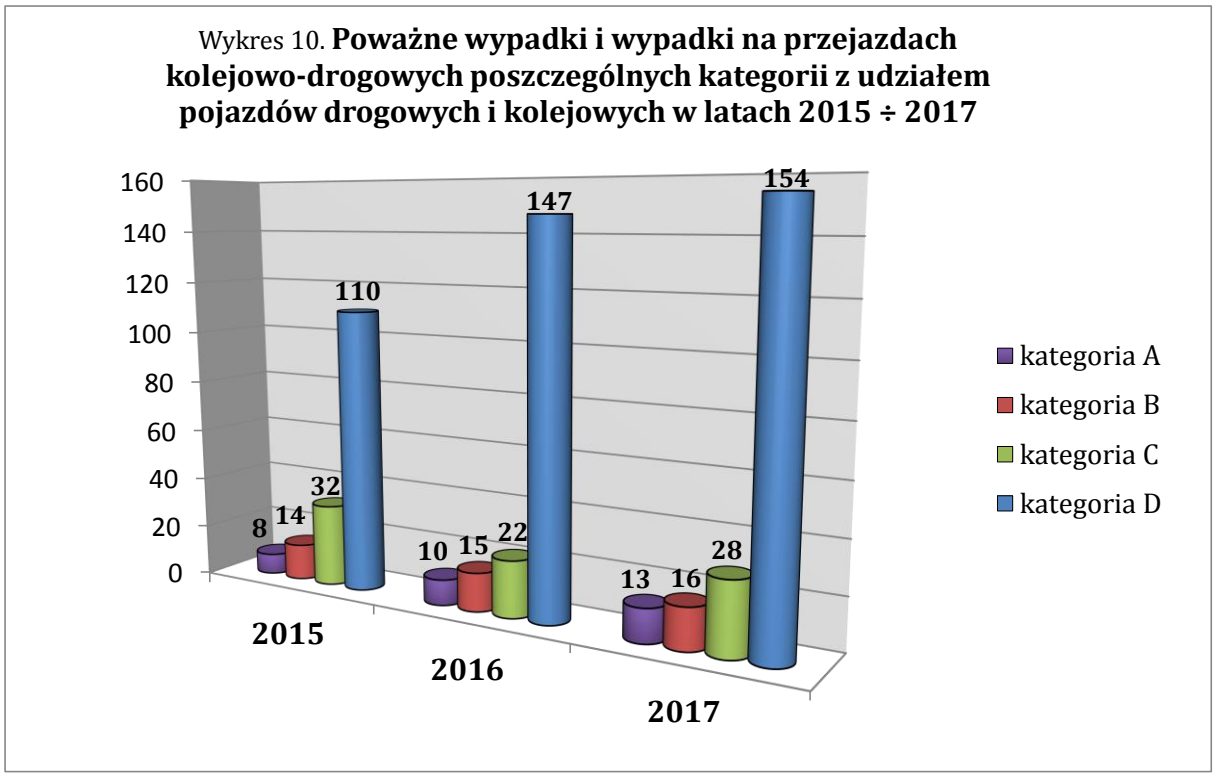


Diagram 10. Serious accidents and accidents at level railway/road crossings of respective categories with participation of railway and road vehicles in 2015-2017; category A; category B; category C; category D

7. Other aspects related to the functioning of the Commission in 2017

In 2017, the Commission conducted its statutory activity pursuing the planned objectives and challenges, based on the allocated funds for this year. As part of the allocated funds, the number of permanent members of the Commission was increased by 5.

As part of its activities, the Commission cooperated with other departments of the Ministry, inter alia, in the analysis of draft legal acts, industry programs, budget preparation or organizational matters as well as personnel matters.

The Commission's activities concerned, inter alia, cooperation with railway commissions, external organizations and enterprises in the country and abroad, in particular:

- Railway Transport Office,
- railway committees conducting supervised proceedings (earlier, i.e. 1 March 2016) by the President of the Commission - 2 events,

- prosecutors and police, at the scene of the incident and in the preliminary stage of the proceeding in accordance with the agreement and applicable regulations,
- The European Union Railway Agency (EUAR) in terms of participation in plenary meetings and conferences organized by the Agency, exchange of information and participation in EUAR working teams, including:
  - "Peer review" group, whose aim is to develop a concept of the method of periodically reviewing the functioning of investigative bodies "Peer review",
  - meeting of the Working Group with representatives of the European Union Railway Agency and selected National Investigating Authorities (NIB),
  - meetings of the combined networks of national investigation bodies (NIBs) and networks of national security authorities (NSAs),
  - plenary meetings of NIB,
  - bilateral meeting with the national investigation body of the Czech Republic Drážní Inspekce,
  - training in the field of the standard concerning quality management systems ISO9001: 2015.
- organizers of trainings and conferences in the scope of presenting the work of the Commission and the manner of conducting investigations related to railway incidents (major accidents, accidents and incidents) by railway committees and participation in meetings and consultations at railway undertakings regarding the assessment of the safety status in rail transport.

In 2017, the Chairman of the PKBWK Mr. Tadeusz Ryś was intensively involved and took patronage over the implementation of the project prepared by the manager of PKP PLK S.A. (first initiatives and concepts of the Chairperson of the PKBWK reported in 2011), aimed at marking the rail-road crossing / rail level crossing with information on its location.

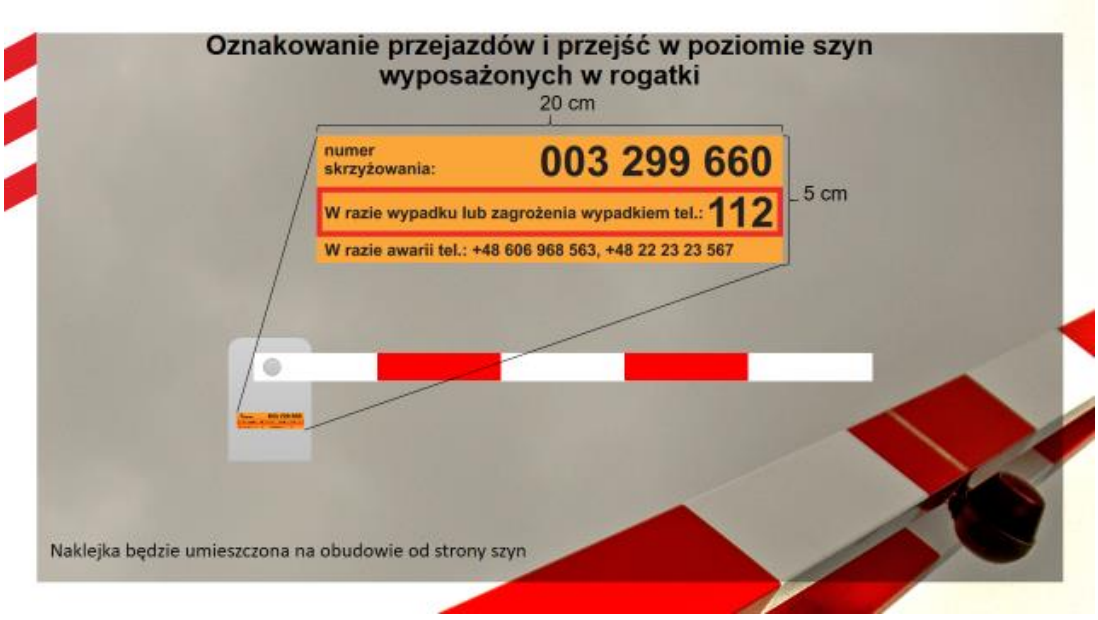
The project was implemented and implemented in the first half of 2018.

PKP PLK S.A. gave the intersections in the level of the rails Individual Identification Numbers (INI), placed on the back of the road sign "Krzyż św. Andrzej ", placed before the railroad crossing or passage and on the casing of the traction drive.

Placing additional information enables quick contact with the railway infrastructure manager, and in the event of an event (threat) in the railway / road crossing zone, it enables quick stopping of the train and possible notification of the services concerned in the event of starting the rescue operation.

This activity can contribute to minimizing the effects as well as preventing the occurrence of breakdowns and railway incidents and streamlining the organization of their removal.

Additional information is provided by means of a sticker containing information:



Marking of crossings and passages at track level with barriers

(Source: PKP PLK S.A.)

sticker pattern: yellow background, black inscriptions

where:

- *003 - means the railway line number, a reflective yellow sticker,*
- *299 660 - means the location (km of the railway line 299,600),*
- *112 - emergency call to notify the services in the event of a rail-road crossing event,*
- *(22) 23 23 567; 606 968 563 - telephone for the dispatcher of the railway infrastructure manager (PKP PLK SA), enabling the user to pass information to the dispatcher in case of an emergency involving a railway vehicle causing adverse consequences for human health, property or environment and other irregularities, or hazards at the rail-road crossing / crossing.*

Marking of crossings and passages at track level without barriers

(Source: PKP PLK S.A.)

The following were involved in the implementation of the project for the entire railway network and railway sidings in the rescue system:

- Head Office of Geodesy and Cartography,
- PKP Polish Railway Lines S.A.,
- The Ministry of Internal Affairs and Administration,
- Ministry of Health,
- Ministry of Infrastructure.

Chairman of the WCWK Mr. Tadeusz Ryś was the initiator and coordinator especially in the initial phase of the project implementation. It is worth emphasizing the great involvement of the national railway infrastructure manager in the implementation of this project. In order to effectively use the implemented project in practice, the railway infrastructure manager should continue to run a media campaign informing drivers about the introduction of information on telephone numbers at railway crossings to be called in case of emergency. The above also applies to other infrastructure managers who they are in the process of implementing the project.

In 2016, amendments to the Act of 28 March 2003 on rail transport entered into force and have a significant impact on the functioning of the Commission in 2017. As regards the Commission, the changes concern the following aspects:

- inclusion of users of sidings in the obligation to immediately report major accidents, accidents and incidents to the Commission (Article 28g, paragraph 1),
- takeover of supervision by the President of UTK over proceedings conducted by railway committees (Article 13 paragraph 1a, point 7a), until 29 February 2016 that supervision was exercised by the President of the Commission,
- legal protection of the members of the Commission in the scope of not participating in proceedings before the Court or the body conducting criminal proceedings as a witness and expert in matters dealt with by the Commission (Article 28a paragraph 17),
- increasing the competence of the members of the Commission in the field of admission to the railway area, driving in the cabin of railway vehicles and inspections of managers and carriers and users of sidings upon presentation of the member's identity card in the field of railway traffic safety, as a result of the incident (Article 28h paragraph 2 items 7, 8 and 9),
- to provide special legal protection for information, evidence and records from the hearing of persons by the Commission, including the prohibition of making available the above-mentioned documents to procedural authorities, or to any other authorities conducting proceedings (Article 28h paragraph 4), unless the consent to release them is issued by the District Court in Warsaw, if the court finds that the overriding public interest justifies their disclosure (Article 28h paragraph. 5).

The above changes entered into force on 1 March 2016.

2017 is the first full calendar year in which users of railway sidings were obliged to immediately report serious accidents, accidents and incidents to the Commission and the President of UTK. The above resulted in an increase in the number of registered events in the statistics.

Changes related to the increase in the number of permanent members of the Commission (Article 28a (3)) and the organizational structure have been specified in the ordinance No. 29 of the Minister of Infrastructure and Construction of 22 June 2017 on the regulations of the State Railway Accident Investigation Commission (Journal of Min. Inf. and Construction, item 48). According to the above Ordinance the National Railway Accident Investigation Commission consists of twelve permanent members. The organizational structure of the office and branches was determined at the beginning of the Report (in point 1.2).

8. PKBWK tasks for 2018

As part of the ongoing activities of the Commission in 2018, it will be necessary to the following activities:

- Conducting proceedings by the Commission resulting from amended national regulations (including on railway lines and railway sidings),
- further training of permanent members of the Commission to update knowledge,
- purchase of an application for reading train driving parameters - selected electronic recorders,
- supplementing the number of permanent members of the Commission to the one specified in the ministerial order No. 29 of 22 June 2017,
- updating and maintaining a database of registered railway events,
- updating the list of the Minister containing ad hoc members of the Commission,
- Implementation of the provisions of the GDPR - from May 25, 2018, the Regulation of the European Parliament and of the Council (EU) 2016/679 of April 27, 2016 applies,
- cooperation with the Rail Transport Office, in particular as regards recommendations submitted to the President of UTK in accordance with its competences and other activities in the field of improving railway traffic safety,
- analysis of applications submitted by the President of UTK to the President of the Commission to decide on any proceedings by the Commission,
- cooperation with other units of the Ministry of Infrastructure in the area of designing changes to national regulations,
- participation in meetings with representatives of the national investigation bodies (NIB) of other EU countries and the European Union Railway Agency (EUAR) as part of plenary meetings and working teams - exchange of experience and knowledge,
- cooperation and participation in working teams and training organized by the European Union Rail Agency,

- cooperation with the national investigation body Drážní Inspekce in the Czech Republic,
- train members of the Commission to the extent necessary to carry out its tasks,
- participation in meetings with prosecutors and the police,
- continuation of training in the course of professional training of representatives of bodies conducting criminal proceedings, railway commissions and the Commission,
- participation in process experiments related to occurring events,
- supervising compliance with the Commission's budget assumptions for 2018.

9. Summary

In 2017, the total number of incidents reported to the Commission increased by 30.8% compared to the previous year.

In terms of the number of accidents, the number of incidents increased (by 8.0%), the number of serious accidents increased by 100%, and incidents by 49.1%. In 2017, there were two serious accidents at level crossings of category A, while in the previous year one was at the railroad crossings of category A and the second at the intersection of category D. A large number of accidents of category B00 (in 2017 - 19, ie about 7 accidents) and incidents of category C69 (in 2017 - 21 ie an increase of 9 incidents) this may indicate a lack of careful analysis of the circumstances and causes of the accident or incident that should be made during visual inspection and investigation, as well as throughout the entire process.

During the same period there was a drop in the number of victims (killed heavily wounded) in accidents by more than 2.3%. Attention should be paid to category B34, which has been updated by the date of report elaboration, ie August 2018. The number of events in this category is significantly lower than that recorded as at December 31, 2017 due to completed prosecutor's proceedings and change in classification of some category events B34 for the suicide or suicide category.

The increase in the number of incidents (accidents and incidents) results, inter alia, from the inclusion of rail railway syllabus statistics and the more rigorous classification of potentially dangerous situations as incidents by railway commissions, as well as introducing changes to the ordinance of the Minister of Infrastructure and Construction dated 16 March 2016 on serious accidents, accidents and incidents in rail transport in the scope of qualifying train rupture or maneuvering events, which did not result in coincidence of wagons as a C68 category incident. Events of this type were treated as potentially dangerous situations prior to introducing changes to the distribution (operational difficulties). Bursts account for over 18% of the total number of rail events occurring in 2017.

In 2017, in the system of the Railway Event Records (EwZd), there was a significant increase in the number of incidents reported to the PKBWK (over 49% compared to 2016). With regard to accidents, incidents generate less material damage and fewer injured people. Nevertheless, their growth constitutes important information about the existing threats that railway market

entities should monitor. Incidents in categories C54, C64, C68 together account for over 61% of all incidents occurring in 2017.

Particularly noteworthy is the increase in the total number of serious accidents and accidents at level crossings of categories A, B, C and D. In 2017, compared to the previous year, this increase was over 8.7% (including 2 serious accidents at crossings) rail-road category cat. A and one at the crossing of category C).

Careful analysis and elimination of hazards (irregularities) should be subject to accidents occurring on sections of railway lines during investment and repairs, and the number of which increased in 2017 (among others in the following categories: B04, B09, B13, B23, C44 and C60).

The analysis of the number of events in 2017 shows an increase in the total number of railway events - for the sidelines of railway siding users statistics - by 153 events. The overall increase, including the statistics of railway siding users, accounts for over 7.6% of all rail events recorded in the PKBWK records in 2017.

In this report and the Annual Report for 2016, the Commission issued a series of recommendations serving the Commission's view - improving safety in rail transport.

In 2017, the Commission fulfilled its statutory duties, at the same time not exceeding the budget assumptions for 2017. It implemented them with effective cooperation with many entities, primarily with railway committees, the Railway Transport Office, infrastructure managers and carriers.

It is mentioned that from January to August 2018, 96 category B21 incidents have already been recorded in the record of railway incidents of the PKBWK occurring at level crossings of category D.

10. Contact details of the PKBWK as at 1 August 2018.

<table>
<tr><td colspan="2">State Commission on Rail Accident Investigation
Ministry of Infrastructure
ul. Chałubińskiego 4/6 building A
00-928 Warszawa
PERMANENT MEMBERS:</td></tr>
<tr><td>Tadeusz Ryś President of PKBWK Tel. (0-22) 630-14-33, Fax (0-22) 630-14-39</td><td>Jan Andrzej Młynarczyk Deputy president of PKBWK Tel. (0-22) 630-14-34, Fax (0-22) 630-14-39</td></tr>
<tr><td>Rafał Leśniowski Deputy president of PKBWK Tel. (0-22) 630-14-35, Fax (0-22) 630-14-39</td><td>Andrzej Gniwek Permanent Member of PKBWK
Tel.(0-22) 630-14-36, Fax (0-22) 630-14-39</td></tr>
<tr><td>Henryk Zgrzebnicki
Secretary Tel (0-22) 630-14-30, Fax (0-22) 630-14-39</td><td>Barbara Pióro,
Commission employee:
Tel. (0-22) 630-14-33, Fax (0-22) 630-14-39, e-mail: pkbwk@mi.gov.pl</td></tr>
<tr><td>Branch in Katowice
ul. Rolna 43
40-555 Katowice</td><td>Branch in Poznań
ul. Składowa 4
61-897 Poznań</td></tr>
<tr><td>Karol Trzoński Permanent Member of PKBWK coordinating the works of the Branch in Katowice Tel. (0-32) 607-24-65</td><td>Benedykt Kugielski Permanent Member of PKBWK coordinating the works of the Branch in Poznań Tel. (0-61) 225 51 00</td></tr>
<tr><td>Grzegorz Skarwecki Permanent Member of PKBWK - Branch in Katowice Tel. (0-32) 607-24-65</td><td>Dionizy Jędrych Permanent Member of PKBWK - Branch in Poznań Tel. (0-61) 225 51 01</td></tr>
<tr><td>Tomasz Resiak
Permanent Member of PKBWK - Branch in Katowice
Tel. (0-32) 607-24-65</td><td>Tomasz Aleksandrowicz
Permanent Member of PKBWK - Branch in Poznań
Tel. (0-61) 225 51 01</td></tr>
<tr><td colspan="2">Telephone on duty 510 126 711</td></tr>
</table>

The website of the PKBWK

The Commission's website:

www.gov.pl

Tab: Ministry of Infrastructure → What we do → Tasks → Transport → Rail → State Commission on Railway Accidents Investigation.

As part of the Commission's website, available information and documents are grouped into the following headings:

- immediate reporting of events (Article 28g),
- written notification of rail events (§ 7),
- about the Commission,
- law and documents,
- reports
- protection of personal data (according to the RODO).

ANNEX

to the Annual Report of the PKBWK for 2017. Information on the implementation of the recommendations of the PKBWK issued in 2017.
(based on information from the Office of Rail Transport)

According to Annex II to Commission Regulation (EU) No. 1158/2010 of 9 December 2010. on a common safety method for assessing compliance with the requirements for obtaining railway safety certificates and in accordance with with the text of Annex II to Commission Regulation (EU) No 1169/2010 of 10 December 2010 on a common safety method for assessing compliance with the requirements for obtaining railway safety authorizations, railway undertakings and railway infrastructure managers, operating on the basis of a safety management system, are required to set up procedures to ensure that the recommendations of the national safety authority and the national investigative body are and, where applicable, implemented or recommended to be implemented.

The President of the Office of Rail Transport, hereinafter referred to as the "President of UTK", implementing the disposition of art. 28l par. 9 of the Act of 28 March 2003 on railway transport (consolidated text: Dz.U. of 2017, item 2117, as amended), hereinafter referred to as the "Act on Rail Transport", supervises the implementation of State recommendations Railway Accident Investigation Commission, hereinafter referred to as "PKBWK", by infrastructure managers, railway carriers or other entities whose activities have an impact on railway traffic safety and safety of railway operation and subject to regulation on the basis of the provisions of the Act.

Bearing in mind the above information and obligations imposed on entities of the railway sector in the area related to safety recommendations, railway entities, i.e. infrastructure managers, railway undertakings and entities responsible for maintenance, functioning on the basis of a safety certificate issued by the President of UTK, were called to submit information on the implementation status of the recommendations issued by the Chairman of the PKBWK in 2017.

As part of the supervision over the implementation of PBKWK recommendations by railway market entities, the recommendations contained in:

1. Annual Report for 2016; Report no. PKBWK / 01/2017 from the study of a serious accident of category A18 occurring on March 26, 2016 at 7:37 on level-A railroad crossing, located on the Dziarnowo, route: Dziarnowo - Inowrocław Towarowy in track No. 1, in km 95,669 of railway line 353: Poznań Wschód - Skandawa:
2. Report no. PKBWK / 02/2017 from the survey of a serious accident category A18 occurring on November 8, 2016 at 6:51 on a category A railway crossing located on the Piotrków Trybunalski route - Rozprza in track No. 1 in km 1488,388 railway line No. 1: Warszawa Zachodnia - Katowice:
3. Report No. PKBWK / 03/2017 from the study of a C52 railway incident occurring on 16 May 2017 at 20:09 at the Podstolice station, in the station track No. 2, at km 262, 500 of railway line No. 3: Warszawa Zachodnia - Kunowice:
4. Report no. PKBWK / 05/2017 from a railway accident crash cat. B13 occurring on December 2, 2016 at 4:11 on the Myszków route - Zawiercie, in track no. 2, at km 263,830 of railway line No. 1: Warszawa Zachodnia - Katowice:

Analysis of individual recommendations - responses declared by railway market entities

The President of UTK did not evaluate the way of handling the recommendations, but only presented the declared state of implementation of the recommendations. **Verification of the actual implementation of the recommendations of the PKBWK took place during the supervisory activities of the President of UTK.**

Recommendations included in the 2016 Annual Report:

RECOMMENDATION 1: Rail carriers and entities responsible for the maintenance of railway vehicles as part of their management systems, they will undertake activities aimed at reducing the number of events caused by train rupture.

ADDRESSEES OF RECOMMENDATIONS: certified railway carriers and certified entities responsible for the maintenance of railway vehicles (125 entities).

The entities implement the recommendation e.g. through:

- inclusion of train rupture, principles of train service in the event of an incident and countermeasures in the subject of periodic instructions and ad hoc, including paying special attention to the proper driving technique and correct train composition;
- control and increased supervision of employees who have direct influence over re-placement and regeneration of draw-back devices;
- checking the condition of coupling devices;
- commissioning maintenance contractors to perform periodic maintenance P4 and P5 additional non-destructive testing;
- ensuring the proper quality of the wagon repairs, especially the drawbar system and brake;
- conducting audits with repairers and maintenance contractors vehicles;
- commission collection of vehicles after repairs or inspections;
- frequent and accurate visual inspections of the technical condition after departure and before the departure of the railway vehicle on the line.

The average percentage of implementation of the recommendation: **79%**

RECOMMENDATION 2: Railway infrastructure managers will undertake activities aimed at minimizing the causes and preventing the occurrence of events and improving the organization in removing the effects of these events on rail-road crossings and rail level crossings by the railway infrastructure manager and emergency services, by introducing additional identification markings for intersections in the bus level, containing the necessary information for the 112 emergency number operator.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- making an inventory and preparing a list of rail and road crossings specifying data from the GPS;
- establishing an agreement with the Head Office of Geodesy and Cartography in order to place data on the Geoportal;
- exchange of information and experience in the implementation of the recommendation between PKP Polskie Linie Kolejowe S.A. and other managers in order to unify the label-ing of different managers;
- budget planning for additional markings.

The average percentage of implementation of the recommendation: **38%**

RECOMMENDATION 3: Railway infrastructure managers will undertake activities aimed at reducing the number of accidents at level crossings. Especially to the increasing number of accidents at level crossings of categories A, B and D, railway infrastructure managers will take appropriate corrective and preventive actions in accordance with the existing safety management systems (SMS). Managers should complete the

implementation of the provisions of the Ordinance of the Minister of Infrastructure and Development of 20 October 2015 on technical conditions to be met by the intersection of railway lines and railway sidings with roads and their location.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).
The entities implement the recommendation e.g. through:

- undertaking activities aimed at analyzing the occurrences of railway events - identification of direct, primary, indirect and systemic causes, in order to determine appropriate preventive measures aimed at reducing the risk associated with identified threats;
- conducting modernization of rail-road crossings;
- checking the conditions of visibility of journeys and crossings, visibility checks railway signals and indicators from the vehicle's cabin, checking news of technical regulations of the station, inspection of track works performed by commissioned and economic systems;
- making traffic measurements for existing journeys;
- adapting / updating the pass code to the requirements of the regulation;
- continuous monitoring of technical condition of journeys.

The average percentage of implementation of the recommendation: **62%.**

RECOMMENDATION 4: Rail carriers and railway infrastructure managers will undertake activities aimed at reducing the number of incidents caused by picking, taking over or driving a vehicle railway on a wrongly laid unprotected route or incorrect operation of railway traffic control.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers and certified carriers (105 entities).

The entities implement the recommendation e.g. through:

- continuous analysis of the causes of occurring events and recommending adequate recommendations and preventive applications;
- preparing news bulletins from the event and discussing on the periodic instructions;
- consideration of train driving and maneuvering techniques taking into account the route arrangement for maneuvering and driving observation of this road while driving, as well as the rules of conduct of the driver and team maneuver in the situation of noticing an incorrectly arranged route, in the subject periodic instructions;
- inspections of the driver's work checking the correctness of work maneuvering and proper routing of the course during control journeys and instructional rides;
- checking the knowledge of the employee during the certification exams issues related to the activities performed while laying the path of the course;
- development of a preventive action card and recognition of the threat in the risk management process ;
- increasing the intensity of employee training in the field of control topics railway traffic, railway signaling, rules for railway traffic, etc.

The average percentage of implementation of the recommendation: **78%**

Recommendations included in the Report no. PKBWK / 01/2017 from the study of a serious accident of category A18 occurring on March 26, 2016 at 7:37 on level-A railroad crossing, located on the Dziarnowo, route: Dziarnowo - Inowrocław Towarowy in track No. 1, in km 95,669 of railway line 353: Poznań Wschód - Skandawa:

RECOMMENDATION 1: Infrastructure managers and rail carriers will intensify control activities employees regarding the presence in the body of agents acting similarly to alcohol or if they are not owned, they will develop and implement internal systems of random employee controls who have direct influence on railway traffic safety.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers and certified carriers (105 entities).

The entities implement the recommendation e.g. through:

- implementation of internal instructions and procedures for the assessment of the psychophysical condition of employees;
- purchase of breathalyzers, with the help of which state controls will be intensified sobriety and psychophysical state by means of purchased narcotests;
- random inspections of employees for the presence of active agents in the body similar to alcohol;
- each time, after the occurrence, carrying out the employee's research a breathalyzer and narcotest;
- calling the Police;
- conducting preventive, preventive information ad education activities to increase the level of awareness and responsibility of employees;
- introduction to the curriculum of periodic topics related to the impact on the human body has similar measures to alcohol and legal consequences doing work under their influence;
- carrying out and assessing risks related to work under the influence of alcohol within the SMS.

The average percentage of implementation of the recommendation: **78%**

RECOMMENDATION 2: PKP PLK S.A. as part of the supervision, it will check the documentation for records regarding the malfunctioning of train radio communications systems and will take appropriate preventive measures.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- undertaking systematic actions consisting in making control in the field correct operation of train radio systems;
- including in the Security Improvement Plan the control of the correctness of the operation of the train radio, including the general principles of establishing communication and checking documentation in terms of records regarding irregularities in the operation of these systems;
- analyzing the risk related to the lack of verification of documentation.

The average percentage of implementation of the recommendation: **70%**

RECOMMENDATION 3A: With regard to the safety management system, PKP Polskie Linie Kolejowe S.A. will take the following actions: accelerate the identification on the scale of the PKP PLK SA network. "A" category crossings serviced by traffic officers or other employees of traffic posts and technical checkpoints and take appropriate actions to successively depend on the possibility of displaying a signal allowing the use of semaphores from the location of gates the above should be implemented on the basis of the risk assessment of the occurrence of events at these crossings, and appropriate corrective or preventive actions should be taken if necessary..

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- monitoring the risk of occurrence of events on level crossings;
- conducting identification of journeys served by traffic officers or other employees of traffic posts and technical posts;
- recognition of hazards in the hazard registry and risk assessment for identified hazards;
- clarification in the technical regulations of entries concerning the closing of toll gates before displaying the permissive signal on semaphores and maneuvering discs.

The average percentage of implementation of the recommendation: **34%**

RECOMMENDATION 3B: With regard to the safety management system, PKP Polskie Linie Kolejowe S.A. will take the following actions: include in the "Hazard register" of the infrastructure manager the following risk identified during the investigation by the Accident Investigation Team, ie "no dependence of the semaphore application on the closure of the tollboots for level "A"rail-road crossings served from traffic stations and technical checkpoints "And carrying out the necessary further activities related to it arising from the binding entity at the infrastructure manager of the SMS system.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).
The entities implement the recommendation e.g. through:

- assessment of the level of risk associated with the lack of dependence on the semaphore's application from the closure of tollboots for category A crossings served from traffic stations and technical posts;
- definition of measures, mitigating actions that will be monitored on an ongoing basis;
- recognition of the threat in the hazard registry.

The average percentage of implementation of the recommendation: **67%**

RECOMMENDATION 3C: With regard to the safety management system, PKP Polskie Linie Kolejowe S.A. will take the following actions: carry out a repeated extraordinary SMS audit checking the implementation of corrective and preventive actions resulting from the comprehensive audit at the Railway Lines Plant in Bydgoszcz, in particular regarding SMS procedures: PR-02, PW-01, PR-03, PG- 01 and SMS PD-05 and taking appropriate corrective actions, if necessary; a comprehensive audit should also include the Operation Section in Inowrocław.

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).
The entity implemented the recommendation e.g. through:

- conducting a comprehensive audit at the Railway Lines Plant in Bydgoszcz, also in the section in Inowrocław.

The percentage of implementation of the recommendation: **100%.**

RECOMMENDATION 3D: With regard to the safety management system, PKP Polskie Linie Kolejowe S.A. will take the following actions: effectively monitor and analyze data on occurrences and dangerous situations, in particular on level A crossings, and initiate appropriate preventive actions taking into account earlier recommendations proposed by the WCWK and railway commissions investigating the circumstances and causes of accidents on level crossings.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).
The entities implement the recommendation e.g. through:

- keeping a register of dangerous situations and a register of railway events together with activities that are commissioned for implementation - the implementation of activities is monitored in accordance with procedures;
- creating, after the occurrence, a corrective / corrective / preventive action card in which appropriate actions are determined;
- discussing events during periodic instructions;
- organization of meetings devoted to the prevention of railway accidents, during which the state of railway traffic safety, including those occurring, is discussed threats, analysis of preventive activities, assessment of the implementation of preventive measures, exchange of experience.

The average percentage of implementation of the recommendation: **67%**

Recommendations included in the Report No. PKBWK / 02/2017 from the survey of a serious accident category A18 occurring on November 8, 2016 at 6:51 on level crossing of category A located on the Piotrków Trybunalski - Rozprza trail No. 1 in km 1488,388 of railway line No. 1:

Warszawa Zachodnia - Katowice:

RECOMMENDATION 1: Analyze whether the provisions contained in the regulations for the operation of railway crossings on the sections of the lines subject to revitalization have been updated, in particular in terms of ensuring adequate time of notifying and informing on train journeys. **If necessary, make the appropriate changes.**

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- carrying out the analysis and introducing possible changes to all regulations regarding the operation of rail and road crossings on sections of the lines subject to revitalization, in particular in terms of ensuring adequate time of notifying and informing on train journeys - if necessary, changes are made to the regulations.

The average percentage of implementation of the recommendation: **20%**

RECOMMENDATION 2: Carry out an analysis of the possibility of retraining the "Moryc" to B category in connection with the approval of such a solution on three tracks under the Regulation of the Minister of Infrastructure and Development of 20 October 2015 on technical conditions to be met by the intersection of railway lines and railway sidings roads and their location (Dz.U. of 2015, item 1744) and make this change.

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).

The entity implemented the recommendation through:

- installation of security devices appropriate for the B-category crossing in the location and re-qualification of the passage to this category;
- analysis for other Zakłady Linie Kolejowych (ZLK);
- rebuilding of SRK devices in the location in question to make it dependent assage devices with station equipment.

The percentage of implementation of the recommendation: **100%.**

RECOMMENDATION 3: Until the introduction of category B on the "Moryc" crossing at km 148,388, the infrastructure manager will take action to ensure that the signal allowing any of the trip semaphores from the Piotrków Trybunalski station to the route towards Rozprza station will be displayed only when the the ride in km 148,388 is closed.

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).

The entity implemented the recommendation e.g. through:

- imposing the obligation of reporting by the crossing picker to the traffic on closure of the gates by trains coming from the odd direction;
- the possibility of a traffic permit being issued by the dispatcher only after obtaining information from the crossing keeper.

The percentage of implementation of the recommendation: **100%**

RECOMMENDATION 4: Until the comprehensive change and improvement of the organization of the system of notifying and reporting crossing train drivers, clarify in the Technical Regulations of the Piotrków Trybunalski Station the division of activities and exchange of information between the older control room and the PT2 regulatory control room in the field of passage service, including the act of informing about the trains drive "Bujny" to the senior controlman of this control room.

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).

The entity implemented the recommendation through:

- Clarification in the Technical Regulations of the division of activities and exchange information between the senior attendant and the signalman at the Piotrków Trybunalski

station and several other ZLK.
The percentage of implementation of the recommendation: **100%**

RECOMMENDATION 5: Bring in an ad hoc position to improve the organization of workplaces on the control room with the PT, to provide the on-call assistance traffic with the possibility of observing the approaching sections, and consider equipping the traffic dispatcher station with an additional monitor presenting the current timetable of trains. Consideration should be given to changing the division of responsibilities between the dispatcher and auxiliary traffic. In particular, take into account such a change in the analysis, so that one of them would lead traffic between the Baba station and the Piotrków Trybunalski station, and the second in the section between the Piotrków Trybunalski station and Rozprza station and managed the work of the PT2 executive control room. This would eliminate the need to exchange information, which in the current organization of work leads to the threat of discontinuation or inaccuracy in the process of mutual communication of information by duty officers, in particular related to notifying check posts about traveling trains.

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).
The entity implemented the recommendation through:

- reviewing workplaces in control rooms in terms of work ergonomics and equipment;
- mounting an additional monitor on which the current distribution is displayed trains;
- development of a repeating unit of approach sections from the Baby station side.

The percentage of implementation of the recommendation: **100%**

RECOMMENDATION 6: In the case of posts, the cast of which is the signalman and the senior signaller, and in the activities of the older signalman there is execution in certain circumstances also, in the process of authorization for a given workplace and in its documentation, two types of authorizations and relevant entries should be used:

a) signalman (only);
b) the signalman and the senior signaller,

without using the authorization limited only to the scope of the senior controlman's duties, without simultaneous authorization as a signaller.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).
The entities implement the recommendation e.g. through:

- PKP LHS sp. O.o .: the criterion of allowing employees to perform activities on a given railway station, in accordance with the competence management procedure personnel in rail transport and LHSa-3 Instruction is to obtain by them authorization carried out by the employer. Authorization should cover an employee in the following cases: before being allowed to perform independently activities on a given railway station, changing the workplace, vehicle type railway station or when the work stoppage at a given railway station lasted longer than 6 months, introducing organizational or technical changes affecting the performance of activities at a given railway station - the company supervises and monitors the qualifications of employees employed in positions directly related to the operation and safety of railway traffic and running specific types of railway vehicles;
- PKP PLK S.A.: ZLK analyzed cases of traffic stations,whose staff are the attendant and senior attorney, and in the activities of the elder the signalman is exercising in certain circumstances also activating activity - no such posts were found in the area of 8 ZLK. Other entities have carried out the required authorizations.

The average percentage of implementation of the recommendation: **20%**

RECOMMENDATION 7: Ensure that the existing call registration system in the announcement links and watchtowers registered the entire talks. To do this, enter advance registration (eg about 2 seconds, as in the registration of radiotelephone calls) conversations voice-initiated (by analog subscribers) and introduce an additional criterion end registration of calls initiated by a subscriber equipped with a new device Generation, which, apart from ending a conversation by him (putting the receiver away), would be the actual end of the conversation by the other interlocutors, regardless of their equipment

(including MB telephones).

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).

The entity implements the recommendation e.g. through:

- in the area of ZLK in Warsaw, Nowy Sącz and Częstochowa, work is under way adaptation of the centers to the possibility of registering calls, in other ZLK there are control panels installed that allow to register calls 2 seconds in advance.

The percentage of implementation of the recommendation: **80%**

RECOMMENDATION 8: During the periodic instructions for crossing guards, a serious accident was to be discussed, with particular emphasis on observing the designated closing times of the gates, in accordance with the regulations of handling the rides.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- discussion on periodic instructions for passage wayrs with particular emphasis on observing the correct closing times of the gates, in accordance with the provisions of travel regulations;
- carrying out audits and checking compliance with the closing time of the gates, in accordance with provisions of the regulations for handling journeys by authorized employees.

The average percentage of implementation of the recommendation: **70%**

RECOMMENDATION 9: Continue as part of the infrastructure manager's safety management system to analyze the risk of occurrence of hazards on level A crossings and increase the number of journeys equipped with devices for automatic proximity signaling of trains and devices of the "Radio-stop" system, in the first place on crossings with a high risk of occurrence of events.

ADDRESSEE OF THE RECOMMENDATION: PKP Polskie Linie Kolejowe S.A. (1 entity).

The entity implements the recommendation e.g. through:

- conducting, since 2014, an analysis of the risk of occurrence of hazards on level A crossings;
- selection of crossings by particular Railway Line Works rail-road for the purpose of equipping with automatic signaling devices approaching trains and devices of the "Radio-stop" system;
- undertaking analyses of the possibility of retraining from category A to category B, along with adaptation to the higher category requirements.

The percentage of implementation of the recommendation: **100%**

RECOMMENDATION 10: ***Take appropriate actions by the railway infrastructure manager PKP Polskie Linie Kolejowe S.A. updating the safety management system, so that the "Hazard register" includes the threats to level crossings identified in the course of the proceedings, including those discussed in sub-chapter III.1.3 of this Report, in particular the threats:***

- ***caused by the loss of the individual predispositions of a crossing tracker to support new devices, increased rail and road traffic, as well as increased speed of trains,***
- ***consisting in the failure to adjust the time of notifying and informing about the trains' travel to the designated closing time of the gates,***
- ***resulting from the suboptimal establishment of a notification system for trains in the regulations of posts and checkpoints in terms of times provided in combination with driving times, i.e. the lack of proper update of the regulations for handling journeys after the revitalization of the line,***
- due to the failure to inform guard posts about the train driving, being the result of the lack of division or bad division of duties between the on-duty traffic officers either control room at the traffic station.

In addition, from the analysis of the work organization of some technical posts, conducted as part of the

proceedings, the Commission's Research Team stated the need to include in the appropriate section (eg 7.9) the "Hazard Register" records regarding threats resulting from:

- wrong division of duties between employees of the post,
- poor ergonomics of workstations at technical posts,

and to consider the desirability of placing a threat that may arise in the design phase technical station, resulting from poorly made assumptions about the organization of work of a technical post, including, for example, its division into setting circles. The analysis should be formulated threats and include them in the Register more clearly than currently in Chapter 8.

Recognizing the risks related to level crossings in three different chapters of the "Register of Threats" causes that some of them, including those identified in the post-accident proceedings conducted by the Commission's research team, may not have been included in the current version of this Register. The "Hazard Register" should be analyzed in the light of the remarks contained in sub-chapter 111.1.3 of this Report and make appropriate changes and additions.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- inclusion of all hazards in the hazard registry, which specifies, among others, means/risk mitigation measures;
- – together with the subcontractor responsible for the preparation of the project identification of all hazards that may arise during the design phase the technical office will be assessed by the risk assessment team..

The average percentage of implementation of the recommendation: **64%**

RECOMMENDATION 11: Consider and, if possible, introduce a change in the organizational structure of the internal control system of the infrastructure manager, consisting in ensuring that the controllers operating at the level of the railway line plant are subject to the Company's headquarters.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

PKP PLK SA: in August 2017 a meeting of the substantive offices of the Company Headquarters took place: – Safety, Operation and Passenger Service and Staff Matters arrangements have been made that these Offices will analyze and consult various options carry out any organizational changes. Not excluding at the same time proposing and undertaking alternative solutions to the complex recommendation of the PKBWK**.**

The average percentage of implementation of the recommendation: **71%**

Recommendations included in the Report No. PKBWK / 03/2017 from the study of a C52 railway incident occurring on 16 May 2017 at 20:09 at the Podstolice station, in the track station No. 2, in km 262, 500 of railway line No. 3: Warszawa Zachodnia - Kunowice:

RECOMMENDATION 1: **Infrastructure managers will review installed SOT 2 devices for the installation of MER 111401/1 receivers and the date of their production.**

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- analysis of installed equipment (in accordance with the risk assessment and management procedure) and review.

The average percentage of implementation of the recommendation: **28%**

RECOMMENDATION 2: If MER 111401/1 devices manufactured before 1998 are identified, infrastructure managers will urgently exchange them for receivers recommended by manufacturers, notified bodies and having type approval certificates or approvals.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- PKP LHS sp. z o.o .: monitors and supervises the risk of identified threats zw. with built-in device MER 111401/1 - determined and taken in accordance with the risk assessment carried out, the necessary actions to control the level of risk;
- PKP PLK SA: until the end of March 2018 the last 6 units were replaced;
- PMT Linie Kolejowe sp. z o.o .: records of the devices in question were made and the supplier of the new equipment was identified. The order is waiting for delivery by the supplier. (The process of purchasing devices whose operation influences the conduct and safety of railway traffic was implemented).

The average percentage of implementation of the recommendation: **8%**

RECOMMENDATION 3: Until all MER-111401/1 devices have been replaced by other receivers, managers the infrastructure will carry out special supervision over the efficiency of these devices and will undertake activities aimed at limiting the risk of occurrence of potentially dangerous events and situations, including keeping the track occupancy control.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- PKP LHS sp. z o.o: as part of the supervision over the risk of threats with faulty operation of the track vacancy control element, i.e. the MER-111401/1 receiver built-up in one location on the line No. 65. Bridge on the river Bug-Sławków Południowy (Track No. 1 passing by Huta Deręgowska LHS), a team of experts defined additional risk control measures. The employee of the relevant Section of Transport (duty officer) was obliged to keep the entry control busy in accordance with the LHSr-1 instruction on running trains and maneuvering work as well as on operating technical posts on the broad-gauge LHS line. also as part of the supervision over the above-mentioned action will be carried out ad hoc and planned inspections regarding the proper keeping of the busy control entry tracks (R-292);
- PKP PLK SA: in accordance with the regulations on running trains at stations having a track vacancy control and a light plan indicating the occupancy tracks, auxiliary agents provided in the event of an entry fairway, should be use only when there are obstacles to the proper action of these devices or are carried out in equipment or in a track of work that may affect the operation of the track-pointing devices;
- PMT Linie Kolejowe sp. z o.o.: actions related to purchase and exchange have been undertaken the receivers in question; the duty of LK's post was obliged to move to keep the track occupancy control for trains entering tracks 305, 303, 303b, 301 until the receivers are changed; a special supervision procedure has been implemented the efficiency of devices defined in the internal regulations of the company **Inspections of the execution of the recommendation to maintain the entry-track-busy indicator.**

The average percentage of implementation of the recommendation: **12%**

RECOMMENDATION 4: The research team recommends increasing PKP Polskie Linie Kolejowe S.A. the number of inspections in the area of rail traffic control devices, in particular aspects related to the implementation of effective monitoring and verification mechanisms for the effectiveness of recommendations made after technical condition checks and correctness of operation of railway traffic control devices, as listed in the Safety Management System for devices with operational limitations.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- implementation of controls at two levels of the organizational structure: (1) own controls of individual "Zakłady Linii Kolejowych", in the scope (in accordance with the control plan for 2018) the type and frequency of repetitive defects in SRK equipment and reliability and accuracy of descriptions of their symptoms, (2) Head Office of the company through inspections carried out in accordance with the Instruction technical diagnos-

tics and periodic control of traffic control devices Ie-7 (E-14). ZLK has additionally planned 158 controls, the Audit and Control Office together with the Head Office Security Office will carry out 4 additional controls (in selected ZLK) and one verification check is planned at PKP PLK S.A. ZLK in Poznań regarding the maintenance of STR unmanned railway equipment.

The percentage of implementation of the recommendation: **10%**

RECOMMENDATION 5: Infrastructure managers will update the technical and operational documentation of traffic control devices.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- PKP LHS sp. z o.o.: The Automation Department will analyze the technical and operational documentation (DTR) of the srk devices installed on the railway line No. 65 in terms of their timeliness and in the event of the detection of outdated DTR devices, srk devices will apply to the manufacturers of these devices for the purpose of updating them;
- PKP PLK SA: in the event of the lack of news of the manufacturer's documentation, in this version of the DTR, ZLK has been required to update them in agreement with the device manufacturer so that at least one copy the current DTR was available for the purpose of maintaining the control system (s) oil movement;
- current updating of technical and operational documentation of traffic control devices.

The average percentage of implementation of the recommendation: **31%**

RECOMMENDATION 6: PKP Polskie Linie Kolejowe S.A Department of Railway Lines in Poznań will clarify the provisions of the Technical Regulations of the Podstolice Station in the scope of the way trains are monitored by the train dispatcher.

ADDRESSEE OF THE RECOMMENDATION: Polskie linie Kolejowe S.A. (1 entity).

The entity implements the recommendation e.g. through:

- Clarification by the ZLK in Poznań of the provisions of the Technical Regulations of the Podstolice Station regarding the way trains are monitored by the duty dispatcher.

The percentage of implementation of the recommendation: **100%**

RECOMMENDATION 7A: PKP Cargo S.A. implements the recommendation contained in the PKBWK Report No. PKBWK / 1/2015 approved by Resolution No. 4 / PKBWK / 2015 of 27 July 2015 with the following wording: "PKP Cargo S.A. will take measures to comply with the rules of use authorized by producers of consumables for speedometers, including recording tapes".

ADDRESSEE OF THE RECOMMENDATION: Polskie linie Kolejowe S.A. (1 entity).

The entity implements the recommendation e.g. through:

- use on operated traction vehicles equipped with in the speedmeters registering type Hasler of recording tape meeting the requirements specified in the Polish Standard PN-C-99221 "Registration materials - Registration paper for tachographs" or approved by Hasler Rail AG for use in the speedometer of its production.

The percentage of implementation of the recommendation:**100%**

RECOMMENDATION 7B: PKP Cargo S.A. shall execute the order of the President of the Office of Rail Transport No. DBK-550/R03/KB/12 of 30.05.2012, addressed to railway carriers with the obligation to install recording devices - digital cameras or video recorders in newly built and in operation railway vehicles , in accordance with the recommendation of PKBWK – No PKBWK-076-305/RL/R/11 of 22.11.2011.
(ATTENTION: the recommendation is analogous to recommendation no. 5 from the Raport PKBWK / 05/2017, at which the answer was given)

RECOMMENDATION 8: As part of the Safety Management System, infrastructure managers will develop risk analysis program for device systems operated according to rules that did not constitute the obligation to admit these devices by the President of the Office of Rail Transport (including devices type MER-111401 and MER-111404), but the decisions of the internal infrastructure manager and opinions of the Railway Institute. In the case of negative assessment - they will take appropriate actions.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).
The entities implement the recommendation e.g. through:

- PKP LHS sp. z o. o.: the equipment systems were reviewed operated in accordance with the rules that did not constitute an obligation to allow these devices by the President of UTK (including devices type MER-111401 and MER-111404), but decisions internal infrastructure manager and opinions of the Railway Institute and it was found that there is no need to develop, as part of the safety management system, an additional risk program for the above-mentioned system, because the company has Certificates admission to operation for all built-in systems according to the above principles;
- PKP PLK SA: a working expert team was established that will develop a risk analysis program for systems operated according to the rules that did not constitute an obligation for the President of UTK to admit these devices, but decisions of the internal administrator and opinions of the Institute Railway. A network newsletter was developed that was incorporated into files of emergency orders on individual ZLK.

The average percentage of implementation of the recommendation: **17%**

RECOMMENDATION 9A: As part of the Safety Management System of PKP Cargo S.A. it will complete the register threats with the following elements: irregularities in the operation of railway traffic control devices.

ADDRESSEE OF THE RECOMMENDATION: PKP Cargo S.A. (1 entity).
The entity implements the recommendation e.g. through:

- introduction of the newly identified threat: "Irregularities in the operation of rail traffic control devices" to the hazard register kept within the framework of the safety management system.

The percentage of implementation of the recommendation: **100%**

RECOMMENDATION 9B: As part of the Safety Management System of PKP Cargo S.A. it will complete the register threats to the following elements: irregularities in the implementation of the recommendations of the State Commission for Railway Accidents Investigation.

ADDRESSEE OF THE RECOMMENDATION: PKP Cargo S.A. (1 entity).
The entity implements the recommendation e.g. through:

- introduction of the newly identified threat: "Irregularities in the field implementation of the recommendations of the State Railway Accident Investigation Commission "to the register threats carried out under the safety management system.

The percentage of implementation of the recommendation: **100%**

Recommendations included in the Report No. PKBWK / 05/2017 from a railway accident accident cat. B13, which took place on December 2, 2016 at 4:11 on the Myszków route - Zawiercie, in track no. 2, at km 263,830 of railway line No. 1: Warszawa Zachodnia - Katowice:

RECOMMENDATION 1: Restore the use of Pc5 night signals also on freight trains on lines with multi-block (automatic) blocking.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers and certified carriers (105 entities).
The entities implement the recommendation e.g. through:

- insight into the needs in this regard, making an appropriate order for Pc5 (night-time) signals with a sufficiently long operating time and implementation immediately after taking into account this recommendation in the internal regulations of the administrator;
- purchase and testing of Pc5 signals (night);
- conducting internal controls regarding the correct use of signaling the end of the train;
- inclusion of the subject of proper signaling of the end of the train to periodic instructions;
- analysis of the possibility of restoring Pc5 signals (nocturnal) in the context of the availability of signals on the signal market that can be used for freight trains and recognition of the possibility of securing the signals against theft;

NOTE: the implementation of this recommendation raised a number of doubts as to the possibility of effective and real implementation of the recommendation and the restoration of the Pc5 signal (nocturnal); the President of UTK received several letters from entities asking for a position in this area.

The average percentage of implementation of the recommendation: **36%**

RECOMMENDATION 2: Implement the use of Pc5 signaling discs in accordance with the dimensions included in Instruction Ie-102 (see page 31 of the Report).

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers and certified carriers (105 entities).

The entities implement the recommendation e.g. through:

- inventory of existing dials and, if necessary, purchase the appropriate number of disks that meet the requirements of Instruction Ie-1;
- internal controls and test drives carried out in the scope of the method the use of traction vehicles by drivers and their compliance with the instructions;
- assessment of qualified suppliers of train end signals;
- discussing the issue of using reflective discs with appropriate dimensions during periodic instructions.

The average percentage of implementation of the recommendation: **47%**

COMMENDATION 3: The SBL semaphore masts should be restored with white signal paint (the front of the mast was lightly brown with brown coating (Ie-12 §24 (2)).

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- PKP SKM w Trójmieście sp. z o.o.: annually - in accordance with the applicable regulations in the company - renews SBL semaphore masts with white paint. If the wrong colors of masts are identified, adequate renovation measures are taken to meet the needs;
- PKP PLK SA: evaluation of semaphore coatings is performed by external examination of the entire signaling device as well as its components and analysis of protocols after diagnostic tests. Masts of semi-automatic semaphores are painted from the base to the head in white according to the time period included in the Maintenance, Inspection and Repair Instructions of current control devices by railway traffic le-12 (E-24). These activities are carried out as part of the maintenance activities of srk devices during the basic maintenance and unplanned operations consisting in replenishing losses of paint coatings aimed at maintaining these devices in full technical (operational) efficiency. Renovation work is carried out from April to July. Office responsible for Automation and Telecommunications in letter IATIa-071-100 / 2018 of February 26, 2018, sent to the Railway Lines, reminded of the necessity paying particular attention to the condition of paint coatings and legibility sirens. It is recommended that all stains affect their readability remove, and in case of missing in the paint coat, complete them.

The average percentage of implementation of the recommendation: **18%**

RECOMMENDATION 4: Infrastructure managers will take actions to build a line block with the assurance of S1 signal illumination continuity on SBL semaphores in the event of a power outage from the non-traction needs line.

ADDRESSEES OF THE RECOMMENDATION: authorized infrastructure managers (11 entities).

The entities implement the recommendation e.g. through:

- PKP SKM w Trójmieście sp. z o.o.: developed - on the managed railway line No. 250 Gdańsk Główny - Rumia - linear blockade guarantees the continuity of signal S1 on SBL semaphores in the event of a power outage from the line of non-traction needs, thanks using SZR power automation, i.e .: Backup Power System;
- PKP LHS sp. z o.o. (manager of the 65 route on the Bug River - Sławków Południowy): train traffic is conducted on the basis of the semi-linear blockade. Individual traffic stations on the line No. 65 are equipped with signal converters that ensure the continuity of signal S1 on entry semaphores and away. In the event of a power failure, traffic outlets an alternative energy source is provided, including power generators;
- PKP PLK SA: SBL semaphores for parts of railway lines being on the board of PKP PLK S.A. have continuity of signaling, including S1, after power failure. Power supply is provided from the line of non-traction (LPN) or back-up power supply systems with back-up, eg battery, for a period of time limited battery capacity. The operation of the devices is checked during inspections and maintenance of SBL devices, and any irregularities detected immediately removed. The recommendation, however, recommends that the power supply for the red light SBL semaphores be maintained in a manner independent of the condition of the apparatus controlling in the block container and from the block container power supply on all railway lines equipped with an automatic line block. In connection with the above, the preliminary analysis indicates the need to intervene in the light circuit and for this reason, the decision requires detailed implementation arrangements with SBL producers. On railway lines that do not have additional power and support in the event of a power outage in the primary network will be successive rebuilding of srk devices with power supply reserve as part of ongoing investment and modernization projects. In addition, the company analyzes the possibility of introducing construction changes in exploited SBLs involving the use of additional, independent of the state of the devices to maintain the continuity of red light on block semaphores. At present, she has presented the content of the recommendation and the results of analyzes to SBL producers in a written form asking for a position in the field of: real the possibility of introducing such changes into an approved UTK or GIK certificate of type SBL, a preliminary response to the possible need performing the recertification of SBL devices, preliminary appointments possible introduction and sanctioning of relevant changes in SBL devices, estimated costs of these activities. From the moment of obtaining from SBL producers necessary information, and then after analyzing these positions, the company will decide what to do next. The average percentage of implementation of the recommendation:

The average percentage of implementation of the recommendation: **15%**

RECOMMENDATION 5: PKP Cargo S.A. and Euronaft Trzebinia Sp. z o. o. shall execute the order of the President of the Office of Rail Transport No. DBK-550/R0-3/KB/12 of 30.05.2012, addressed to railway carriers with the obligation to install recording devices - digital cameras or video recorders in newly built and in operation railway vehicles , in accordance with the recommendation of PKBWK – No PKBWK-07-605/RL/R/11 of 22.11.2011

RECOMMENDADTION ADDRESSED TO: PKP Cargo S.A. and ORLEN KolTrans Sp. z o.o. (2 entities)

The entities implement the recommendation e.g. through:

- ORLEN KolTrans sp. z o. o. : cameras / video recorders installed on own and newly built locomotives. It is not possible to install cameras on locomotives of other owners, leased by ORLEN KolTrans, due to lack of owners' consent.

- PKP Cargo SA: continuously implements the recommendations of the PKBWK regarding the installation of recording devices - digital cameras or video recorders in vehicles rail:
  - in newly purchased traction vehicles video recorders constitute the required piece of equipment;
  - in operated traction vehicles, the installation of digital cameras or video recorders is carried out as part of the main repairs;
  - at the present moment devices are mounted in 65 company locomotives, including: 20 ET41 locomotives, 15 EU46 locomotives and 30 ST48 locomotives;
  - in addition, major repairs are planned for the nearest future, including equipping the next 125 locomotives of ET41, ST48, ST44 series with equipment;
  - task constantly implemented as part of the modernization and repair of the P5 level of traction vehicles, according to the demand for locomotives for transport. Therefore, PKP CARGO S.A. can not determine the final date of implementation.

The average percentage of implementation of the recommendation: **50%**