2016 Report on Railway Safety in Poland

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| KULTURA BEZPIECZEŃSTWA | SAFETY CULTURE |
| W TRANSPORCIE KOLEJOWYM | IN RAIL TRANSPORT |

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| URZAD TRANSPORTU KOLEJOWEGO | RAIL TRANSPORT OFFICE |

Warsaw, 2017

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| Mission:  To create safe and competitive conditions for the provision of rail transport services |

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| Vision:  A modern and accessible regulator ensuring high standards in the provision of services in the rail transport market. |

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# Introduction

## Objective and scope of the report

Pursuant to Article 16 of Directive 2004/49/EC on safety on the Community’s railways ('Railway Safety Directive'), each Member State must establish a body to implement all the tasks of a national safety authority (NSA) for the rail sector specified in the directive. In Poland, pursuant to Article 10(1) of the Act of 28 March 2003 on Rail Transport ('Rail Transport Act'), this function was assigned to the President of the Rail Transport Office ( 'President of the RTO').

Pursuant to Article 18 of the Railway Safety Directive, each year the safety authority must publish an annual report concerning its activities in the preceding year and send it to the Agency by 30 September at the latest.

The report must contain information on:

* the development of railway safety, including an aggregation at Member State level of the common safety indicators (CSI) laid down in Annex I of the Railway Safety Directive;
* important changes in legislation and regulations concerning railway safety;
* the development of safety certification and safety authorisation;
* results of and experience relating to the supervision of infrastructure managers and railway undertakings;
* derogations applied pursuant to Article 14a(8) of the Railway Safety Directive.

The report is sent to the European Union Agency for Railways ('the Agency'). The report will also be published in the Official Journal of the President of the RTO and on the Agency’s website (www.era.europa.eu), on which annual reports prepared by all Member States that have their own rail systems are published. Therefore, it will be available to all parties concerned, i.e. public administration bodies, railway undertakings, associations and chambers of commerce.

In terms of its subject matter, the report covers the national public rail network managed by 12 infrastructure managers. The report does not cover networks that are functionally separate from the requirements of the Railway Safety Directive, including narrow-gauge rail systems, internal on-site rail transport, tram transport, cable transport or cable railway transport systems, or the metro system. Pursuant to the adopted guidelines, the report does not include all occurrences that took place within national rail premises. The report only covers occurrences classified as significant accidents, including serious accidents. These terms are defined further in the report.

The report was prepared based on data sent to the President of the Rail Transport Office by railway undertakings and infrastructure managers in their annual safety reports submitted based on the requirements of the Rail Transport Act transposing the relevant requirements of the Railway Safety Directive to the national legal system. The data obtained in the reports was supplemented with data obtained by the President of the RTO from other sources including, in particular data collected in the Register of Rail Occurrences kept by the President of the RTO ( 'RRO'), which is one of the key tools for the ongoing monitoring of safety levels in the rail sector.

The data in the report will be used by the Agency to prepare the ‘Biennial report on the safety of the railway system in the European Union’.

Pursuant to applicable guidelines, the report was prepared in accordance with a uniform, standardised template developed by the Agency, and is consistent with the system used therein.

As in the previous year, to ensure consistency and reliability of conclusions drawn from the data collected, the President of the RTO published detailed Guidelines on how to prepare safety reports on the website: utk.gov.pl. The data presented in the reports is subject to verification by the President of the RTO and, if required, entities must submit relevant corrections to ensure maximum reliability of data presented in the report.

It should also be noted that the analysis of rail occurrences based on a breakdown into serious accidents, accidents and incidents (under the Railway Safety Directive) is used in ongoing measures monitoring the safety of the rail market undertaken by the President of the RTO, and is presented every year in the report on rail traffic safety (formerly: Assessment of rail traffic safety), published in the Public Information Bulletin of the Rail Transport Office. However, this report has been prepared based on a classification of occurrences as significant accidents (including serious accidents). Therefore, when comparing data in both documents, this difference must be borne in mind.

## National safety authority

Pursuant to the Act of 16 November 2016 on amendments to the Rail Transport Act and certain other acts (Journal of Laws of 2016, item 1923), the independence of the President of the Rail Transport Office as an authority was reinforced and the statutory powers were specified, both as the National Safety Authority and the National Regulatory Body. These amendments have mainly been implemented by means of changing the form of supervision of the President of the RTO. Currently it is the Prime Minister who directly supervises the President of the RTO, and not, as in the past, the transport minister. In addition, prerequisites for shortening the term of the President of the RTO by the Prime Minister were specified. The independence was reinforced through the introduction of the following solutions:

* performance of duties independently from any market interest;
* exclusion from proceedings in the matters of the regulated entities if the President of the RTO or the Vice-Presidents of the RTO had direct or indirect relationship with these entities in the year preceding their election to the position;
* inability to exercise other revenue-generating activities, apart from holding an education position at an institution of higher education;
* prohibition of membership in a political party or trade union and general prohibition of public service activities which are impossible to reconcile with the impartiality and independence of the position held;
* appointment for a term of five years, with the removal from the function of a regulatory authority possible solely due to disciplinary offences, unrelated to the decisions made.

Furthermore, the candidates are selected by way of a transparent procedure based on appropriate professional experience and the competences of the persons applying for appointment to this position. The President of the RTO and the Vice-Presidents are appointed by the Prime Minister for a term of five years. The first term started with the appointment of Mr Ignacy Góra to the position of the President of the RTO on 30 March 2017.

The purpose of the amendments implemented in the regulations is to highlight and strengthen the impartiality of the nature of the duties performed by the President of the RTO.

Furthermore, the competences of the President of the RTO were reinforced by means of implementation of the following changes:

* The scope of supervision of the President of the RTO was improved. Supervision of maintenance does not solely apply to rail lines, but all the elements of railway infrastructure;
* The scope of the tasks of the President of the RTO relating to rail transport was improved and systematised. The scope of the tasks of the President of the RTO relating to the access to railway infrastructure was systematised and a task was added within the scope of control of the network statement;
* A task was added relating to the supervision of proper functioning of the service facilities and supervision of the President of the RTO over compliance with the laws regarding accounting;
* Regulations concerning handling complaints by the President of the RTO were clarified. The competency of the President of the RTO was extended with the complaints relating to service facilities;
* Regulations concerning cooperation of the President of the RTO with the regulatory bodies of the other countries and the regulations on the duties of the President of the RTO relating to reporting were added.

# General safety state and strategy

## Main conclusions for the reporting year

Pursuant to the Railway Safety Directive, the common safety targets (CSTs) specify the minimum safety levels, expressed in risk acceptance criteria, that must be achieved by different parts of the rail system and by the system as a whole.

Member States are required to constantly monitor the safety levels of their rail systems, including monitoring the achievement of common safety targets (CSTs), expressed quantitatively and qualitatively.

The level of common safety targets expressed quantitatively and qualitatively for five individual risk groups including passengers, staff, level crossing users, unauthorized persons on railway premises and others, achieved in 2016, and the level of common risk are presented in the standardised table below. The table contains information on specific safety requirements, the national reference value for the given requirement and the achieved indicator value as a number and percentage. The lower the value of the indicator, the higher the safety level in a given risk group.

Table 1. Implementation of common safety targets in 2016

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Common safety targets (CSTs) | | NRV for Poland | Calculated indicator value | Achieved indicator level |
| 1.1. NRV for risk to passengers (x 10-9) 2016 | | | | |
| CST 1.1. | Number of passenger FWSIs per billion passenger train-km | 116.1 | 9.612 | 8.28% |
| CST 1.2. | Number of passenger FWSIs per billion passenger-km | 0.849 | 0.079 | 9.26% |
| 1.2. NRV for risk to employees (x 10-9) | | | | |
| CST 2. | Number of employee FWSIs per billion train-km | 17.2 | 5.122 | 29.78% |
| 1.3. NRV for risk to level crossing users (x 10-9) | | | | |
| CST 3.1. | Number of level crossing user FWSIs per billion train-km | 277 | 221.513 | 79.97% |
| CST 3.2. | Number of passenger FWSIs per billion passenger-km (track km) multiplied by the number of level crossings | N/A | - | - |
| 1.4. NRV for risk to 'others' (x 10-9) | | | | |
| CST 4. | Number of FWSIs to persons belonging to the category 'others' per billion train-km | 11.6 | 0.000 | 0.00% |
| 1.5. NRV for risk to unauthorised persons on railway premises (x 10-9) | | | | |
| CST 5. | Number of FWSIs to unauthorised persons on railway premises per billion train-km | 1210 | 518.998 | 43.74% |
| 1.6. NRV for risk to society as a whole (x 10-9) | | | | |
| CST 6. | Total number of FWSIs per billion train-km | 1590 | 752.035 | 47.96% |

Of the 2016 indicators calculated for the established risk groups based on statistics in the form of common safety indicators (CSIs), none exceeds the accepted level of risk or the national reference values (NRVs) set for Poland.

The lowest indicator values, indicating increasing safety levels, were achieved for the risk to the passenger group and are: 8.28% for CST 1.1 and 9.26% for CST 1.2, respectively. The value of the risk indicator for unauthorised persons on railway premises was 43.74%, representing a 31.4% decrease in comparison to the previous year.

The highest value of the indicator, similarly to the previous year, was achieved in the level crossing user risk group – 79.97%, representing a decrease in comparison to the previous year by 12.4%. The group for which the highest indicator value was recorded is also CST 2. for employees – 29.78% (66% decrease). Total CST 6. to society as a whole was 47.96%, representing a 28.4% decrease. These risks were identified as priority areas, i.e. areas in which it is necessary to take measures at Member State level to increase the level of safety of the rail system. Planned measures by the President of the RTO to increase safety in these risk areas are described in chapter C.

Two serious accidents happened at railways in Poland in 2016 at level crossings: On 26 March, a serious accident occurred at a category A crossing on the Dziarnowo – Inowrocław Towarowy route, railway line 353 Poznań Wschód to Skandawa, and on 8 November a serious accident occurred at a category A level crossing on the Piotrków Trybunalski – Rozprza route, railway line 1 Warszawa Zachodnia –Katowice.

On 26 March 2016 at 7.37, passenger train 7501 from Poznań Główny to Gdynia Główna, led by locomotive series EU07A-003 owned by the railway undertaking 'PKP Intercity' S.A., at a category 'A' level crossing located on the Dziarnowo – Inowrocław Towarowy route at km 95.669 of railway line 353 from Poznań Wschód to Skandawa, hit a passenger car. The train was being operated by a driver of electric multiple units and the driver’s assistant**.** The collision happened at the train speed of 105 km/h. Two adults died as a result of the collision. The car was totally destroyed. The indicated root causes of the incident included: failure to close the level crossing gates by the train dispatcher of the junction signal box in Dziarnowo prior to announcement of the 'S2' signal to proceed for the EIE 7501 train at the entry signal and announcement of the signal to proceed without making sure if the level crossing gates were closed. A range of indirect causes was also indicated, among which particular attention should be drawn to the fact that the driver of the passenger car was intoxicated.

On 8 November 2016, at a category A crossing, at km 148.388 of railway line 1 from Warszawa Zachodnia to Katowice, while train 1329 was running from Łódź Kaliska to Kraków Główny, a passenger car entered a level crossing with open barriers and its driver was killed instantly. The root cause of the accident was train 1329 running into a road vehicle (passenger car) which entered the crossing with raised barriers, crossed to track 2 and drove directly in front of that train, moving on track 1, at a category A crossing,

Following these serious accidents, the State Commission for Investigation of Railway Accidents ('SCIRA') prepared relevant reports, presenting recommendations to improve safety. The implementation of SCIRA's post-accident recommendations is presented in chapter C.2.

The year of 2016 was the safest year for Polish railway transport in the last 7 years. In the main railway network there were 1 399 rail occurrences, 569 of which were qualified as accidents. 167 people were killed that year, another 190 were injured, including 92 seriously injured.

Rail transport is currently the safest branch of land transport. The general image of safety in rail transport is formed by two factors – accidents with their origin in the rail system and accidents which occurred outside this system. The basic factors influencing the state of rail traffic safety are:

* the technical condition of railway infrastructure;
* the technical condition of rolling stock;
* the competency of employees;
* the technical condition of railway traffic signalling equipment,
* the functioning of the level crossings;
* the level of safety culture in society.

Ensuring further stable increase in the level of safety in rail transport should be based on technical and organisational safety, as well as on security against the external forces.

In summary of the information concerning the safety of the rail market for 2016, the following issues should be emphasised:

#### Improvement of the culture of reporting rail occurrences

The culture of reporting rail occurrences significantly improved in 2016. This caused the largest recorded number of rail occurrences (in the incident category) and potentially dangerous situations. With regard to this, the increase in the number of incidents by 65.7% and in the number of potentially dangerous situations by 5.5% with the lowest number of accidents should be regarded as a positive trend and an increase in the awareness of railway market entities with respect to responsibility for safety, including the need for reliable reporting of potentially dangerous events and situations. As a result of them being recorded and studied, the level of safety increases. This was one of the goals of the President of the RTO within the framework of implementation of the 'Safety culture' project. Moreover, a decreasing number of events is incorrectly qualified between categories, which is doubtlessly related to the supervision of the procedures conducted by the railway committees, as well as the increase in the level of awareness. It also proves the implementation of proactive safety management solutions by the rail market entities.

#### Increase in the number of incidents during transport of dangerous goods

A worrying trend (a 69.2% increase in the number of cases) was recorded relating to incidents during the transport of dangerous goods. On one hand, this could be related to the increasing total number of incidents, and on the other to the departure from concealing occurrences. It should be kept in mind that in the case of transport of dangerous goods, each incident should be treated seriously, as such transport causes the greatest hazard on railway lines. Therefore, the President of the RTO regularly supervises the safety of transport of dangerous goods. This issue will be under particular supervision in 2017 and 2018.

#### Increase in the number of SPAD occurrences

An equally worrying trend (a 7% increase) was recorded with regard to the train drivers passing the locations where they should stop. This applies both to the locations where there was no danger and places where the train drivers passed the 'Stop' signal and entered the space reserved for other vehicles. Within the scope of incidents (C44), this can be ascribed to the increase in the level of safety culture. However, mainly in the case of accidents (B04), it is hard to disregard the fact that such situations carry a high level of risk. Under slightly different circumstances such 'omissions' may give rise to serious accidents. Due to the seriousness of these events, the President of the RTO appointed a Safety Monitoring Team, which handled this issue, with particular regard to the undertaking with the largest number of such cases. Due to the complexity of the reasons for the occurrence of these events in 2016, the President of the RTO initiated works on an innovative project that will allow to minimise the influence of the human factor on the level of safety. The initiative – Train Driver Monitoring Centre – is meant to increase and facilitate the process of examining train drivers. This will be a place where the competency of all the train drivers will be verified independently and objectively, which will also contribute to the improvement of the level of safety in rail transport.

Monitoring and verification of this area will effectively prevent train drivers from failing to comply with the appropriate rest period prior to duty and will allow a decision to be taken about possibly sending the train driver for additional training. The level of training of a train driver is also influenced by the competency of the instructors and examiners in the training and examination centres for train drivers and candidates for train drivers, which should also be subject to periodic verification.

Minimisation of the risk of occurrence of incidents relating to the human factor in the aspect of rail traffic would be favoured by the implementation of technical solutions preventing human errors. Such a solution could be based on track-side equipment, which is made conditional upon the signals displayed on semaphores and on-board devices, which should be installed in the vehicle and supplement the parts of the railway network, where the European Rail Traffic Management System (ERTMS) will not be implemented.

In the aspect of counteracting the negative results of the influence of the human factor in the case of such events, it is justified to maintain the functioning of the 'Radio-stop' signal, which allows for the implementation of the emergency train braking signal in the case of identification of a hazard that is independent of other signals. The current technological solutions disallow the application of the functionality of the 'Radio-stop' system in the case of a rail traffic control system based on the GSM-R technology.

#### Serious accidents at road level crossings

In the area that is most difficult to manage (due to the participation of third parties in relation to the railway system), the number of serious accidents remained at a similar level. Due to the circumstances of these incidents, the investigations upon their occurrence were conducted directly by SCIRA. Most causes of the accidents lie outside the railway system, but some of them were also related to deficiencies on the part of the railway system. Therefore, the President of the RTO acts in two ways: extemporaneously within the framework of supervision of the SMS of infrastructure managers engaged in particular occurrences and systemically through appropriate management of SCIRA's recommendations. Since 2016, in accordance with the European requirements, these recommendations have been submitted directly to the President of the RTO, the National Safety Authority. Here they are analysed in terms of influence on safety management systems and the comments are addressed to the entities. The method of implementation of these recommendations is also supervised – so that the actions taken are as effective as possible in their influence on other such cases.

As a result of the analysis of the accident metrics on level crossings of particular categories, the target category should be class B, where automatic level crossing signals are used, as well as half or full barriers. Improvement in the classes of level crossings, combined with a reduction in their number, is characteristic of developed railway systems and it is definitely a desired state, to which the Polish railway system should aspire.

Of key importance is a premeditated design of railway investments and cooperation with public road administrators in the design of road modernisations and their modernisation towards grade separation. The solution of the problem is not favoured by the currently binding systemic principle stating that the only party responsible for the maintenance of a road level crossing is a railway infrastructure manager. This principle does not take into account the fact that the issue of accidents at level crossings is a shared issue of the railway system and the road transport system, and most of all it is a problem of the society, which ultimately pays the cost of these occurrences. This principle should apply in the case of maintenance of the proper technical condition of road level crossings, as well as in the case of liquidation or modernisation of such crossings and raising their category.

When drivers cross road level crossings, they breach road traffic regulations by entering the crossing area after the light signal ordering to stop is initiated. Such behaviour poses a serious hazard to the driver, the passengers of the vehicle, but also to the passengers of the rail vehicle, who, apart from the probability of suffering injuries, are also at risk of inconveniences relating to several hours of removing the consequences of the accident, during which the railway line is out of service. One of the ways of dealing with this issue is to install a system detecting entry of a vehicle onto a crossing at the time of operation of the light signal. Such a system can operate completely automatically – 24/7 and the data on recorded offences (including readings from vehicle registration plates) is sent to appropriate services. The inevitability of punishment, and therefore discouragement of the drivers from breaching the regulations, should have a positive effect in the form of a reduction in the number of accidents.

The increase of safety in this area is also related to the broadly understood education, aimed at the reinforcement of the so-called safety culture in society. Regardless of the numerous campaigns organised nationwide in Poland, promoting safe behaviour in contact with the railway system, including road level crossings in particular, this area is still characterised by low understanding and limited awareness of the hazards. It would be particularly desirable to modify the core curriculum in the schools, so that the issues of correct behaviours in contact with railway transport are presented to the members of society starting at the earliest age. Greater emphasis on the method of crossing level crossings should also be placed in driver education and examination centres. Knowledge in this regard gained during training and verified during the exam, combined with practical verification of correct behaviour in the field, will contribute to the reduction of the hazards.

In the case of immobilisation of a vehicle in the area of a road level crossing, the decisive factor is the time of sending information regarding this event to the proper services. For this purpose, it is justified to take actions based on using additional markings at road level crossings, presenting basic information on the procedure in case of emergency. Such information should include the data on the emergency telephone number, level crossing number and the potential location (road) of the particular level crossing. Such information should be located in an easily accessible place. In Poland, once the proper procedures are established, the emergency number should be 112, already adopted in the notification system. Such a solution will definitely contribute to an increase in safety at road level crossings.

#### Decrease in the number of fatalities

In the analysis of the consequences of rail occurrences, a positive reference should be made to a decrease in the number of fatalities as a result of these occurrences. In 2016, it decreased by 26.4% and reached the value of 167. It is still a very high number, but it should be noted that the reasons for almost 75% of the occurrences lie beyond the railway system and concern the participation of third parties. Reaching a group of persons driving road vehicles who do not act in accordance with the binding legal regulations and persons entering railway premises without authorisation is rendered difficult and labour-absorbing. However, it should be noted that the activities of the President of the RTO, informational campaigns, participation in the 'Safe crossing – a barrier against the risk' campaign, or numerous events aimed at the promotion of safety, bring the desired results.

#### Decrease in the number of B34 category occurrences

As far as the so-called wild crossings are concerned, i.e. the difficult-to-manage B34 category, a 26% decrease in the number of occurrences was recorded in 2016. In addition, the number of occurrences classified as suicides increased by 31.9% in 2016; therefore, it can be stated that the rate at which the occurrences are requalified by the law enforcement authorities as suicides, i.e. exclusion of perpetration of persons, is improving. Apart from the purely statistical aspect, it seems that the campaigns organised both by the President of the RTO and PKP Polskie Linie Kolejowe S.A. ('PKP PLK'), such as 'STOP wild crossings' or 'A track bed is not a sports field' are starting to bear fruit.

#### Decrease in infrastructure theft – effectiveness of actions associated with Memorandum

A decrease (24.1%) in the number of thefts and acts of vandalism on railway premises was also recorded in 2016. This was contributed to by the operational activities of the Railroad Guards, as well as the engagement of infrastructure managers within the framework of the Memorandum on the prevention of infrastructure thefts. The President of the RTO is one of the signatories of the Memorandum and actively engages in the implementation of its assumptions.

#### Increase in the number of inspections and reduction in the number of irregularities

The year of 2016 was also a year of the highest efficiency and effectiveness of supervisory activities of the President of the RTO. As much as 58% more supervisory activities were conducted and a 23.5% decrease in the number of irregularities was also recorded. This proves the efficiency of systemic approach to supervision of the railway market, as well as the changing awareness of the entities. As a result, the level of safety culture is increasing in real terms. This stems not only from the effectiveness of the activities of the employees of Regional Branches, but also from the active exchange of information and independent pursuit of the development of the implemented and properly supervised Maintenance and Safety Management Systems, among other things, as part of such activities as the 'Safety culture' competition.

#### Increase of the safety culture level

The key issue for a systematic increase in the level of safety in the rail sector is to continue the existing projects and to undertake new actions within the scope of promotion of the principles of rail transport, the pillar of which is to apply a proactive approach to the issue of safety. The shaping of the safety culture awareness among the people managing rail market entities and their employees will allow for suitable risk management, including the utilisation of knowledge and competency for the identification of hazards and implementation of adequate risk management measures. Therefore, a significant aspect of the implementation process of safety culture are the activities of public institutions, scientific entities, industry media and other entities associated with the broadly understood rail sector, which, by exercising their functions, will support the development of safety culture.

## National safety strategy, programmes and initiatives

A document that outlines a rail transport safety strategy at Member State level is theMaster Plan for Railway Transport in Poland until 2030, developed by the ministry responsible for transport matters in 2008. This document contains a section covering strategic measures aimed at increasing the level of safety of the rail system.

The issue of rail sector safety is addressed in two ways in the document mentioned above:

* as rail traffic safety, resulting from the characteristics of rail transport as a process that is technical and dependent, first and foremost, on the technical parameters of the devices and systems used;
* as transport safety, also defined as safety in the transport of persons, covering any hazards to passengers and goods transported via rail, but not directly related to the technical characteristics of the rail system.

In terms of rail traffic safety, the measures included in the plan primarily concern the gradual implementation of modern rail traffic control systems on the national rail network, such as the European Rail Traffic Management System (ERTMS), described in greater detail in a subsequent section hereof. The document also stresses the importance of investment and revitalisation processes, in particular for rail infrastructure, and highlights the need to ensure an appropriate level of finance to provide adequate maintenance of rail infrastructure.

In terms of strategic records regarding revitalisation and maintenance of rail infrastructure, of essential importance is the scale of investment projects aimed at improving the condition of rail infrastructure and increasing the safety levels, which are taking place in many locations on the Polish rail network. The majority of these works are co-financed by the European Union.

On 15 September 2015, the Council of Ministers adopted the National Railway Programme until 2023 ('NRP'), which is a continuation of the Multiannual Railway Investment Programme until 2015, finalised on 31 December 2015. The major objective of this new document is to increase the importance of rail transport as a component of the integrated transport system in Poland. This objective is to be achieved by creating a coherent and modern railway network. The major objective is complemented by goals, covering increased efficiency of rail transport, greater safety of rail transport and improved quality of passenger and cargo transport.

The plans to achieve the goals included in the NRP in 2016 assume the expenditure of PLN 5 183.7 million, of which PLN 4 932.6 million was spent, which means that the financial plan was implemented at the level of 95%

Implementation of 39 projects was completed in 2016. At the end of 2016, PKP Polskie Linie Kolejowe S.A. conducted tendering procedures for the total value of PLN 28 702.9 million (net), whereas in 2016 300 procedures were initiated for the total estimated value of PLN 11 059.6 million (net) and 76 procedures were continued for the total estimated value of PLN 17 663.6 million (net). In 2016, the Company concluded agreements for the amount of approximately PLN 2 595.5 million.

The infrastructure manager in 2016 applied for funding from CEF for 10 projects with a total value of PLN 2 073.7 million. The Company also applied for EU funds under the Operational Programme Infrastructure and Environment ('POIiŚ') and the Operational Programme for Eastern Poland ('OPEP'). PKP PLK submitted 11 applications for funding under POIiŚ, the value of which amounted to PLN 8 319.7 million and signed 4 agreements on co-financing for the total net amount of PLN 4 363 919.2. At the end of 2016, PKP PLK had contracted funds for 12 projects for a total net amount of 7 596 130.4, representing approximately 26% of the value of POIiŚ 2014-2020 projects. The Company applied for EU funds under OPEP for a single project, for which a co-financing agreement was signed.

In terms of ensuring the safety of transport, current investment projects tasks involving the construction of new turnouts and the modernisation of level crossings (the measure is closely related to the priority area in which the indicator calculated was closest to the national reference value) are of significance.

Measures in this regard are implemented both as part of the modernisation and revitalisation of lines (in 2016, 509 km of track, 549 turnouts, 213 railroad crossings were modernised, and 47 two-level crossings were constructed or modernised), and of separate dedicated investment projects (project under Operational Programme Infrastructure and Environment (POIiŚ) 7.1-71 Improving safety through the construction of new rail turnouts with an improved design standard, which foresees the replacement of 549 turnouts, or projects POIiŚ 7.1-59 and POIiŚ 7.1-80 Improving safety and eliminating operational hazards at level crossings – stages I and II, concerned the modernisation of 213 railroad crossings until 31 December 2016). In addition, investments aimed at improving safety levels involved signage of approaches to railroad crossings, using rumble strips, installation of additional fault detection equipment in rolling stock or the purchase of base radiophones with a Radiostop system at level crossing gatehouses.

In connection with modernising rail lines, further procedures were conducted in 2016 under the application to award the decision of the President of the RTO pursuant to Article 20 of the Directive 2008/57/EC of the European Parliament and of the Council on the interoperability of the rail system within the Community ('the Interoperability Directive'), deciding on the need to obtain a permission to operate the structural subsystem after the modernisation. The President of the RTO is obliged, with respect to projects concerning modernized subsystems, to assess the nature and scope of works carried out within a given project not only with respect to its technical requirements but also to rail system safety criteria in the context of the possible influence of the planned modernization on the rail system safety.

The year of 2016 is also a year in which an effort will be made to meet the requirements resulting from the interoperability of the railway system related to safety, inter alia by means of issuing permissions to operate for TSI-conforming vehicles – electric multiple units, including the first permissions to operate for vehicles equipped with an on-board ERTMS/ETCS system.

The President of the RTO participates in the works under the Memorandum on cooperation for the prevention of thefts and criminal damage relating to infrastructure. The Memorandum was initiated in 2012 by the presidents of the following three regulatory offices: Office of Electronic Communications, Energy Regulatory Office, and Rail Transport Office. This agreement was also signed – as signatories – by the entities in the telecommunications, energy and the rail sectors, which wish to actively participate in the activities covered by its scope. This subject matter is also consistent with the prevention activities of the Police aimed at prevention of theft and criminal damage to property.

PKP PLK annually undertakes a range of actions for the protection of railway infrastructure. Actions undertaken in the previous year included (information based on the PKP PLK's Annual Safety Report for 2016):

* monitoring of locations where thefts and criminal damage relating to infrastructure occur, conducted by the officials of the Railway Guards, the Police and employees of PKP PLK;
* sending greater numbers of Railway Guards to the routes at risk, also including operations in plain clothes;
* conducting regional and nationwide intensified activities on the railway routes which are most at risk, under the codename: 'INFRASTRUCTURE';
* using special MMC (Mobile Monitoring Centre) cars on the railway line sections which are most at risk and in locations where thefts of infrastructure occur;
* cooperation with the Police, sending written requests to competent Provincial Police Headquarters for the intensification of preventive measures in the areas of frequent thefts;
* inspections of scrap yards in cooperation with the Police, Trade Inspection and representatives of railway companies within the scope of authorisations;
* raising awareness of local government authorities issuing permits for business activities to scrap yards in relation to the consequences of theft of railway property, in particular, devices which directly influence rail traffic safety;
* notifying the owners of scrap yards about thefts (after each theft of railway infrastructure devices) including a detailed list of stolen elements, information about legal sanctions arising from purchasing assets derived from crime and the safety hazard to train traffic;
* written notification about the occurrence and the arrest of the person responsible for the offence, sent to the competent company of the PKP Group, including the information that the aggrieved branch can report a crime and seek compensation for damages through appropriate legal channels;
* shared rounds of rail lines with the employees of PKP PLK (Service Sections) to select the locations in which thefts are committed most frequently and development of common activities at the level of a branch;
* supervising and monitoring of railway lines at which closures are planned by network trains to ensure safety and supervision of the railroad traffic signalling equipment;
* activities under the codename 'Safe Tracks' aimed at controlling persons circulating on railway premises;
* using photo-traps, night-vision and thermovision devices at the railway line sections which are most at risk and in the locations of infrastructure thefts.

A decrease (24.1%) in the number of thefts and acts of vandalism on railway premises was recorded in 2016.

The President of the RTO launched a special hotline for reporting all kinds of complaints and requests relating to rail traffic safety. In addition, the requests can be sent via a contact form on the website of the RTO, e-mail and post.

As many as 510 reports relating to rail traffic safety were received via the hotline and other dedicated contact channels to the President of the RTO in 2016 (this number remained at a similar level to that in 2015). In all the cases, immediate verification measures were instituted, which for the most part confirmed the irregularities in the operations of railway market entities. The fast response of the President of the RTO has contributed many times to eliminating the potential hazards to rail traffic safety.

Starting in 2013, the President of the RTO has been running an informational and educational campaign 'Railway ABC' – a nationwide education programme on safety addressed to children of preschool and school age. In 2016, the campaign was recognised by the Children’s Ombudsman, the Minister of National Education and the Minister of Infrastructure and Construction, who gave it their honorary patronage.

The aim of the campaign is to promote the principles of safety and the values and models relating to responsible behaviour during the use of rail transport and circulating in the areas of the stations, stops and railroad crossings. The classes, adjusted to the age of the children, were beneficial and stimulating in terms of the influence on the development of their cognitive abilities, such as attention, cause & effect thinking and perceptiveness, as well as the ability to predict and make proper decisions. The classes also developed the imagination of the recipients and the sense of responsibility for the safety of themselves and others.

Two competitions were prepared in 2016: for the pupils in elementary schools and the youngest children. The competition for children aged 7-12 was joined by 40 elementary schools and the competition for preschoolers – by over 130 educational facilities. The main prize in each competition was a visit of the Railway ABC Group to an educational facility and organisation of classes for children. At the end of each class the children received diplomas and additional prizes.

In 2016, the Railway ABC Group conducted almost 50 educational classes in facilities nationwide. It met with a group of over 2500 children and adolescents aged 3-10. Moreover, it participated in five outdoor events promoting safety among the youngest children.

The next initiative of the President of the RTO is the 'Passenger Day' – an informational and educational campaign started in 2011, concerning the rights of rail passengers. During meetings at rail stations across Poland, the passengers are provided with advice and information regarding their rights. During each meeting, the employees of the RTO give the passengers leaflets on the rights of passengers, and also familiarise the travellers with the information concerning the possibility of lodging complaints and receiving compensation for a delayed train. Approximately 5000 leaflets were distributed as part of this campaign in 2016.

Furthermore, the passengers have the opportunity to share their own observations and comments relating to rail and fill in an anonymous survey of satisfaction in relation to services provided at stations and on trains. In 2016, such a survey was completed by 700 passengers. During the campaign, the stand of the RTO is also visited by persons who are deaf and hard of hearing, as they can talk to an RTO employee fluent in the Polish Sign Language. These persons can also watch short videos on passenger rights. There are also leaflets prepared in Braille for the blind.

Another campaign by the President of the RTO is connected with the meetings under the name ‘Piątki z UTK – bezpieczeństwo na piątkę’ (Fridays with RTO – ‘A’ Grade Safety).

An appropriate level of communication with rail market entities and all the parties interested in the activity of the President of the RTO allows for a smooth flow of information, which influences the formation of safe rail transport. 'Fridays with RTO – ‘A’ Grade Safety' are open-day meetings held every other Friday in the office of RTO in Warsaw and in each of the seven Regional Branches. This is a possibility of meeting representatives of the Office who are ready to answer any questions regarding rail traffic safety, including the administrative and control procedures implemented by the President of the RTO. This is a perfect chance to resolve any doubts, both relating to the subject matter and to the formal, legal aspects. Almost 80 such meetings were held in 2016.

The RTO Academy project was initiated in 2016. The aim of the project is to transfer knowledge between the employees of the RTO and between the RTO employees and the participants of the broadly understood rail market. RTO Academy included the establishment of a structure, development of principles and conducting a cycle of training and workshops. This tool is used as one of the pillars of practical improvement of safety culture in rail transport.

The RTO Academy covers two areas with its scope. The first of them – external – is addressed to the participants of the rail market. The activity of the office in this area is called the Rail Knowledge Academy ('RKA'). The other area – internal – covers the activities of the office addressed to the RTO employees and these activities were called RTO for RTO ('RFR').

Educational activity within the RKA allows for the transfer of specialised knowledge from the RTO to the rail market. Such activities are often preventive in nature, which allows to prepare the market for the introduction of new regulations and amendments to the provisions. Regular contact with the representatives of the rail market allows for better understanding of the issues with which the participants of the market struggle, and therefore allows for a swift response. The amount of educational activities undertaken by the RTO and the wide spectrum of recipients, in our opinion, translates to an increase in the safety of rail transport. The subject matter of training is adapted to the needs on a current basis. The RKA programme council with the Steering Committee of the project designs the training plan for a period of six months. In there is a sudden need relating to a solution of a particular problem, the RTO tries to organise training promptly, so that the market can receive comprehensive knowledge in the shortest time possible. Free training organised as part of the RKA attracts great interest, also due to the possibility of participating in training via video conferences. In 2016, there were three training sessions organised, with 162 participants.

Within the scope of RTO for RTO, the organised training covered the subject matter concerning law, administration, IT and technical / industry training. In 2016, there were 19 training sessions organised, with 224 participants (some of the RTO employees participated in several training sessions). Of particular significance to the maintenance, and even increase of the safety of rail transport are undoubtedly the industry training sessions intended for the employees of the Regional Branches of the Office. Care for the improvement of professional qualifications of people operating in the field is one of the main priorities of the training policy. Care for the reliability and highest substantive level of the inspections conducted by the inspectors translates directly to an increase in the safety of rail transport. This is possible as a result of covering the employees of all the Regional Branches of the RTO with a unified training programme under the RTO Academy.

The President of the RTO, as part of the improvement of safety culture of rail transport, implements and manages significant projects, addressed both to the rail market entities and the entire society. One of the key initiatives within this scope is the project of Declarations and Safety Culture Competition in rail transport. In accordance with the adopted values and assumptions, safety is the key and essential precondition for the sustainable development of rail industry. Each entity operating on railway premises should maintain and improve the level of safety within one’s own activities. The concept of this project is based on promoting good practices, attitudes and values within the area of the rail market. The assumptions of safety culture indicate a system of principles, the observance of which allows for the proper development of the rail market. Indicated among these values should be, among other things, the perception of safety as a superior value for the employees and the organisation, acceptance of safety standards and their integration with the daily activity, honest and open approach to weak points, orientation towards finding solutions or zero tolerance for breaches of legal regulations and internal procedures. Particular attention is also paid to the issue of the human factor in the development of safe rail transport. The development of skills of employees, so that they are capable of operating in the interest of safety, in accordance with the competency, experience and professional standards corresponding to particular positions and functions is of high importance in this context. For this purpose, the organisation should provide the employees with appropriate working conditions, tools, training and procedures.

The 'Declaration on the development of safety culture in rail transport' was yet another project developed and implemented in 2016. The purpose of the initiative is to promote the activity within the scope of increasing the safety level of rail transport. The Signatories of the Declaration included almost 160 entities, such as the Ministry of Infrastructure and Construction, the President of the National Rail Accident Investigation Committee, Civil Aviation Office, Polish Police Headquarters and the representatives of infrastructure managers, railway undertakings, siding users, as well as scientific entities, associations and the media. Participation in development of safe railway, promotion of good practices, inspiring social confidence – these are just a few benefits drawn from the participation in the project.

The signatories of the Declaration also participate in the Competition for the Prize of the President of the RTO. The aim of the Competition is to award or honour the persons or entities, who or which, with their work and owing to the implemented innovative solutions, contribute to the improvement of safety culture in rail transport. This is also an opportunity to appreciate and award persons who, with their behaviour or actions, implement the principles of safety culture in daily work. The 'Safety culture in rail transport' competition was announced on 12 August 2016.

The aim of the 'Safety culture in rail transport' competition is to share the experience of the rail market entities within the scope of promotion of safety culture and taking actions with the purpose of improvement of safety of Polish rail transport. The awarded activities meet four criteria: innovativeness, systemic nature of the solution, benefits for the safety of rail transport and the level of implementation. Awards and honourable mentions in the competition are awarded by the jury appointed for this purpose. The entities winning in the competition receive awards – safety culture statuettes and the option of using the gold logo of safety culture for a year from the date of announcement of the results. The entities with entries admitted to participation in the competition gain the right to use the logo of safety culture for a year from the date of announcement of the results of the competition. The jury can also award honourable mentions for particular achievements in the field of improvement of safety of rail transport and integration of people with disabilities.

The finals of the 1st 'Safety culture in rail transport' Competition was held on 25 November 2016. The competition jury awarded railway entities introducing solutions promoting safety. Honourable mentions were awarded to individuals who took action to save the lives of passengers and co-workers.

The year of 2016 saw the continuation of the works initiated a year earlier on the preparation and publication of the updated List of the President of the RTO on the proper technical specifications and standardisation deliverables, replacing the List of the President of the RTO issued on 26 September 2013.

The new List of the President of the RTO identifies the national requirements for the TSI-conform vehicles (special cases, open points, compatibility between the vehicle and the railway network) and the non-TSI conform vehicles. The conducted verification, dating of the standards and their update were aimed at an improvement in safety requirements by the application of coherent and harmonised technical regulations.

The aim of the determination of national technical requirements contained in the List of the President of the RTO is to provide safety of the railway system and safe operation of rail traffic by means of specification of specific points for essential requirements. By means of verification of compliance with the standards presented in the List of the President of the RTO, the assessment body confirms the fulfilment of essential requirements, including the requirements with regard to safety.

The year of 2016 was the year of adoption of operational test scenarios concerning the interaction of the ERTMS/ETCS and the GSM-R 'Control-Command and Signalling Track-side' with the corresponding part of the 'Control-Command and Signalling On-board Subsystem'. The adoption of the scenarios on one the hand means the fulfilment of obligations arising from European regulations by the National Safety Authority, and on the other the provision of specific guidelines concerning one of the key areas of rail safety, i.e. rail traffic management. The scenarios serve to test the proper operation of the on-board equipment with the track-side equipment, which is essential for safe vehicle operation.

In the work of the Rail Transport Office there is a noticeable lack of an integrated IT tool supporting the process of monitoring the state of the rail market, including the level of safety. The introduction of Rail e-Safety (Kolejowe e-Bezpieczeństwo) will allow for quick identification and elimination of traffic safety risks. An effective risk analysis requires complete and reliable data resources, the analysis of which, with the application of modern methods, will allow to take action in advance.

In order to analyse the hazards to the rail transport safety it is necessary to create a uniform database which allows obtaining unified data from each of the participants of rail transport. Such operation requires each of the representatives of the rail market entities, including the administration bodies associated with rail transport, to use a single system, therefore excluding unwanted errors or discrepancies.

The development of such a platform is aimed to monitor the state of rail safety in Poland and allow accurate planning of supervisory activities and proactive activities oriented towards the improvement of the level of safety. Owing to the automatically created analyses presenting trends in rail occurrences, vulnerable areas in rail infrastructure and vulnerable structural elements in rail vehicles, it will be possible to eliminate traffic safety risks immediately. The system will allow simultaneous gathering of comprehensive data resources intended for the optimisation of the processes covering areas which directly influence rail system safety and the improvement of the quality of service of market entities.

Due to the increasing share of the human factor in rail occurrences (mainly train drivers) the President of the RTO is going to develop a concept of a train driver monitoring system. The system will consist of an IT application and a rail vehicle simulator. The implementation of such a system will ensure the development of an examination system inspiring trust of all the participants of the rail market, including train drivers. The train driver monitoring system, through determining proper and unified standards of verification of qualifications of train drivers, will bear a positive influence on the level of rail transport safety, particularly in the aspect of the implementation of the 4th Railway Package assuming an increase in the competitiveness of inter-branch rail transport, increase in the amount of rail transports and provision of interoperability.

The essential aim of the project is to develop a solution for the examination of train drivers and certification of on-the-job-training instructors and examiners. The main tasks for implementation will be:

* to create a separate organisational unit / cells operating within the structures of the RTO responsible for the ongoing execution of tasks within the scope of examining train drivers, certifying examiners and monitoring of the cycle of the professional life of train drivers in the context of monitoring of rail market safety;
* to create / purchase an application to handle the tasks executed by the examination unit of the RTO;
* to purchase simulators – tools for examination and certification.

## Overview of the situation in 2016

The year of 2016 was the safest year for Polish railway transport in the last 7 years. 265 significant accidents occurred that year in the main railway network (excluding the network separated functionally from the railway system). 167 people died in these accidents and 92 were seriously injured. The general level of safety in national railway traffic in 2016 improved in comparison to 2015: the number of significant accidents in the main railway network decreased by 13.7%, i.e. from 307 to 265 (by 42 accidents). The number of fatalities in these accidents decreased by 26.4%, i.e. from 227 to 167 persons, whereas the number of seriously injured persons and amounts to 92. Detailed data and statistics are presented in section C of the report.

The influence of external entities on the rail system remains problematic, including, in particular, that of unauthorised persons being present within railway premises, users of roads crossing railroad crossings, and persons deliberately acting to the detriment of the rail system. The percentage of all the accidents (not only the significant accidents) with the participation of external entities in 2016 remained at the level from 2015 – i.e. over 70%, with the total number of accidents lower by almost 9% in comparison to 2015.

In 2016, the Team for monitoring of safety levels in the rail sector in Poland executed its tasks within the framework of activities monitoring safety in rail transport. The Team aims to identify the worrying trends and new hazards concerning safety, as well as communicating them to the entities concerned so that the entities immediately take proper preventative measures to ensure the appropriate level of rail traffic safety.

In 2016, there were 9 Team meetings held, concerning:

* the rail occurrences which occurred as a result of adverse weather conditions: low temperatures and snowfall;
* the prevention of cases of a rail vehicle running into a road vehicle or persons at level crossings.
* the faults in 37AN bogies in 218M vehicles;
* the rail occurrences with the participation of enterprises conducting works within the framework of investments and repairs at railway lines, as well as small and medium freight carriers;
* the incorrect operation of railway traffic signalling equipment ('RTS' equipment);
* the activities relating to the eradication of the problem of breaking frames of 37AN and 24MNb bogies;
* the creation of a working group, the task of which will be to develop efficient and systemic solutions resulting in an improvement of safety at the meeting points between rail and road infrastructures;
* the unsatisfactory technical condition of freight wagons;
* the rail occurrence of 8 November 2016 (probably twisting of an axle of the second wheel-set of the SM42 locomotive, which led to its derailment).

The President of the RTO continued to organise free training and workshops for the representatives of market entities responsible for rail system safety. In 2016, four meetings were held, concerning:

* legislative changes in the Rail Transport Act;
* supervision of the work of railway committees;
* work organisation and the role of the National Rail Accident Investigation Committee;
* supervision of the implementation of the recommendations of the National Rail Accident Investigation Committee;
* registration of rail vehicles in the national railway vehicle register (NVR);
* legal regulations for training on simulators.

In 2016, the President of the RTO carried out many educational and informative workshops devoted to broadly understood safety of rail transport.

## Priority areas in 2017

It is highly important that all entities within the railway system (i.e. carriers, infrastructure managers, siding users, entities responsible for maintenance, etc.) feel responsible for its safety.

The key challenge is to define a unified action strategy including the determination of priorities and milestones. This is required to reach the expected safety level in rail transport. It is vital to focus on the opportunities to reduce the current number of rail occurrences and to develop the safety culture. The above requires a long-term proactive approach.

Currently, the observation of the rail market allows for the identification of a negative trend in the events relating to:

* a rail vehicle passing the 'Stop' signal or the place where the vehicle should stop;
* the failure to observe the working time standards of train drivers;
* a rail vehicle running into persons crossing the tracks in prohibited locations;
* a rail vehicle running into a road vehicle or vice versa at level crossings.

The most important hazard to the rail safety of all the aspects mentioned above remains the running over of people crossing in prohibited locations and accidents at level crossings, constituting the majority of all rail occurrences.

This issue requires firm and efficient actions which will allow to reduce the number of rail occurrences. This activity should not be restricted to supervision, but it should also include educational and informative tasks. This is inseparably connected with building and promoting the safety culture, which means it requires high involvement of the President of the RTO. It is also vital that the authority responds as appropriate to all rail occurrences, including near misses and other dangerous occurrences.

Rail transport is particularly demanding in terms of safety. Safety is, therefore, an essential and necessary condition for sustainable development of the rail industry. Therefore, each undertaking operating in railway premises should, within the framework of its activity, maintain and increase the level of safety.

A safety culture is a fundamental element of an effectively working railway system, and the safety and maintenance management systems based on safety culture are necessary in all rail organisations. The correctly comprehended safety culture is based on a high level of trust and respect between employees and management, which is why it has to be created and supported by senior management.

Safety on level crossings depends on the appropriate cooperation between the rail and road infrastructure managers with respect to modernising and maintaining these crossings. Therefore, it is necessary to involve representatives of competent authorities responsible for the roads, local governments, police or fire brigade in works on improving safety on level crossings. It should be remembered that the distribution of costs relating to level crossing maintenance, borne mainly by the rail infrastructure managers, is a systemic problem.

Due to the lack of an integrated tool supporting the process of monitoring of the state of the rail market, including the level of safety, implementation of such a system will be one of the priorities, the implementation of which will start in 2017. The implementation of an electronic Rail e-Safety platform will allow to identify and eliminate traffic security risks immediately.

The Rail e-Safety project was initiated to create an IT tool supporting the monitoring of the state of rail safety in Poland and allow accurate planning of supervisory activities and proactive activities oriented towards the improvement of the level of safety. Owing to the automatically created analyses presenting the trends in rail occurrences, vulnerable areas in rail infrastructure and vulnerable structural elements in rail vehicles, it will be possible to eliminate traffic safety risks immediately. The system will allow simultaneous gathering of comprehensive data resources intended for the optimisation of the processes covering areas which directly influence rail system safety and the improvement of the quality of service of market entities.

One of the main elements preconditioning correct and – more importantly – safer functioning of the railway system is the human factor, including the predispositions and the physical and mental condition of the staff employed at the positions relating to the management and safety of rail traffic, as well as with driving of particular types of rail vehicles, especially train drivers.

It is therefore essential for the working time to be properly regulated. The particular psychophysical burden that the persons driving rail vehicles are exposed to and the nature of the tasks performed determine the need to define the basic standards which put the issue discussed in order. The working time of train drivers has not been regulated in special provisions, as for example in the case of the drivers of goods vehicles and buses. Under the current state of law this issue is primarily determined by the provisions of the Labour Code, which are also applicable in reference to train drivers.

The lack of specific regulations has a negative influence on the safety of rail traffic. The area that is particularly vulnerable from the point of view of the determination of working time standards for train drivers is the issue of providing services for more than one entity. In the analysis of regulations in the case of employment by different employers the key fact is that the length of work is not totalled, and it is calculated separately for each initiated employment relationship. The consequence is the possibility of double employment of train drivers, who in reality may drive a rail vehicle for a period of time which exceeds that allowed by the binding regulations and, what is particularly important, without the observance of uninterrupted daily and weekly rest periods. Due to the strategic influence of the issues relating to the working time of train drivers on safety in rail transport, supervision over the abovementioned issue has been recognised as one of the priorities in the supervisory activities of the President of the RTO.

Monitoring and verification of this area will effectively prevent train drivers from failing to comply with the appropriate rest period prior to duty and will allow a decision to be taken about possibly sending the train driver for additional training. The level of education of a train driver is also undoubtedly influenced by the competency of the instructors and examiners in the training and examination centres for train drivers and candidates for train drivers, which should also be subject to periodic verification.

An important challenge for the President of the RTO for the years to come will be to continue to promote passengers’ rights through different educational campaigns, including continued direct contacts with passengers, e.g. through campaigns at railway stations, such as ‘Dzień Pasażera’ (Passenger Day) or ‘Kolejowe ABC’ (Railway ABC). It is also vital to maintain the hotline concerning passengers’ rights and increase cooperation with the media to promote knowledge on travel improvements and the competences of the authority competent for supervising compliance with the passengers’ rights. The mentioned campaigns are presented in greater detail in chapter B.2.

The President of the RTO is also planning to repeat the campaign concerning the promotion of the rules of safe road level crossings in 2017. The previous campaign, aimed both at drivers and the pedestrian users of level crossings, was organised with the cooperation of the Railroad Guards (SOK/RG) and the Police. During the campaign, the participants of road traffic will receive educational and informational leaflets. They will also receive answers to questions relating to safety, as well as be reminded about the essential rules for using level crossings.

The starting point for 2017 priorities within the scope of supervision included the trends relating to the accident causes (including the significant accidents), as well as the number of rail occurrences in previous years by categories. The area of supervision is closely related to the recertification processes. For this reason, the supervision processes took into account the terms of validity of the issued certificates. The priorities specified in this way were included in the supervision strategy which requires, among others, the audits and inspections relating to the management systems to be carried out by the President of the RTO.

Consequently, the priorities of the RTO President for 2017 comprise primarily:

* continued activities to implement systemic supervision of the railway market, including the systemic inspections assumed as the basic method, with the random checks as a tool for responding, e.g. to safety reports;
* systemic supervision of entities holding a safety authorization or certificate relating to SMS, considering in particular the technical condition of the infrastructure and the vehicle maintenance process,
* MMS system audits in connection with the expiry of the validity of certificates for entities responsible for freight wagon maintenance;
* supervision of the performance of the recommendations included in the post-inspection guidelines and orders in the administrative decisions;
* starting cooperation with NSAs from other EU countries regarding common supervision over Polish entities operating outside Poland and entities from other EU countries operating in Poland.

Pursuant to the amendment of the Rail Transport Act, the RTO President was awarded additional rights and obligations with respect to supervising the works of railway commissions as well as the analysis, assessment and supervision of the performance of the recommendations.

Since 2016, the President of the RTO has had the supervisory powers with regard to the correctness of occurrence qualification performed by railway committees. Correct qualification and analysis of rail occurrences, and therefore recognition and analysis of the causes, allows to take actions aimed at limiting the occurrence of such situations in the future.

It should also be stressed that the findings made by the RTO President in previous years remain up to date. According to them, the basic task for all parties involved in the safety of the national rail system should be the responsible completion of the process of transition from the system where safety is based primarily on stiff regulations stipulated by the government administration to the one where the complete responsibility of an entity operating, based on uniform tools for managing safety of the activity performed, is of the utmost importance.

To counteract the adverse tendency of rail occurrences involving people from outside the rail system (including but not limited to unauthorized persons on railway premises, road users crossing level crossings in a hazardous way as well as people acting to the rail system detriment purposefully), the President of the RTO will place a considerable emphasis in 2017 on supervising activities which comprise identification of the unauthorized crossings, i.e. places where unauthorized people access railway premises (violating the regulations) as well as supervision of level crossings.

# Change in the state of safety

## Detailed analysis of the latest trends

This chapter presents an analysis of rail occurrences based on the common safety indicators (CSIs) that are used to monitor the state of safety of the rail sector in all Member States of the European Union. The analysis covers only significant accidents, including serious accidents within their scope, which occurred on the main network (excluding the network separated functionally from the railway system).

The report on rail traffic safety, published in the Public Information Bulletin of the Rail Transport Office by virtue of national law, presents an analysis of all the rail occurrences which took place in Poland in 2016. Moreover, the mentioned document does not cover the operation work for other transport, i.e. for example operating or technological transports, which are contained in this report.

### Number of fatalities

The number of fatalities in significant accidents that occurred in 2016 decreased by 26.4% (42 persons) in comparison to 2015, i.e. from the total number of 227 to 167 persons.

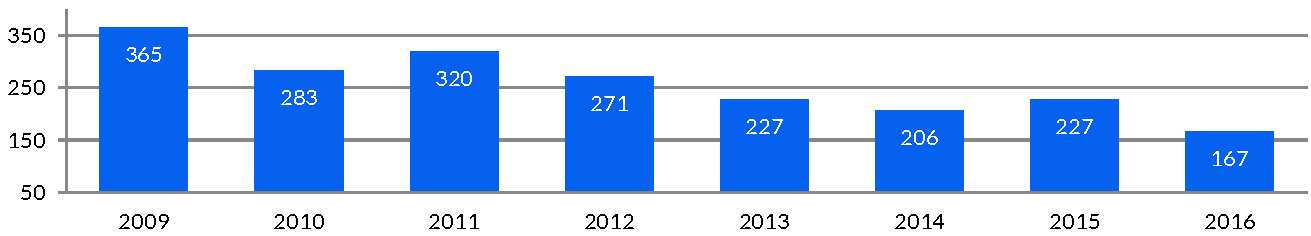
Changes to the number of fatalities broken down into individual categories of persons covered by common safety indicators between 2015 and 2016 are as follows:

* passengers: a drop by 50.0% (from 2 to 1 person);
* employees: a drop by 66.7% (from 3 to 1 person);
* users of level crossings: a drop by 9.4% (from 53 to 48 persons);
* unauthorised persons: a drop by 29.5% (from 166 to 117 persons);
* other: a drop by 100.0% (from 2 to 0 persons).

Table 2. Total number of fatalities in significant accidents in 2009 – 2016

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Fatalities | | Fatalities per million train-km | |
| 2009 | 365 | - | 1.75 | - |
| 2010 | 283 | -22% | 1.29 | -26% |
| 2011 | 320 | 13% | 1.41 | 9% |
| 2012 | 271 | -15% | 1.21 | -14% |
| 2013 | 227 | -16% | 1.05 | -13% |
| 2014 | 206 | -9% | 0.96 | -9% |
| 2015 | 227 | 10% | 1.01 | 5% |
| 2016 | 167 | -26% | 0.71 | -35% |

Figure 1. Total number of fatalities in significant accidents in 2009 – 2016



Safety indicators concerning fatalities in 2016 are the lowest in the last 7 years. Most of the fatalities are unauthorised persons (117 persons) and level crossing users (48 persons).

Due to the maintained high percentage of accident victims at level crossings, the President of the RTO has planned actions aimed at improving safety in this area for 2016. Apart from the conducted inspections and educational campaigns promoting safety, in November 2016 there was a meeting held of the Team for monitoring of safety levels in the rail sector in Poland. The participants of the meeting were the representatives of the rail infrastructure managers, including the national infrastructure manager – PKP Polskie Linie Kolejowe S.A., State Fire Service and the Association of Polish Districts. The subject of the meeting was to discuss the experiences in the prevention of occurrences at level crossings and shared initiatives that can be undertaken in this regard.

The President of the RTO systematically supervises the technical condition, maintenance process and classification of the junctions of railway lines with public roads. Verification is not limited to the infrastructure and railway equipment, but also the correctness of marking for level crossings and the state of access roads. If any irregularities are identified, the information is submitted to the road administrator for the purpose of elimination of the breaches identified .

In 2016, the President of the RTO, during 181 supervisory actions, inspected a total of 405 crossings divided into categories:

* cat. A – 97 inspected;
* cat. B – 61 inspected;
* cat. C – 66 inspected;
* cat. D – 181 inspected.

As many as 643 violations have been identified as a result of the conducted activities.

The main violations include:

* poor maintenance of the surface of level crossings;
* irregularities with regard to marking and signalling;
* failure to follow diagnostic recommendations;
* failure to ensure proper visibility;
* irregularities with regard to level crossing metrics;
* irregularities with regard to the maintenance of the devices securing the level crossing.

In 2016, 117 decisions were issued identifying violations concerning the technical condition and operation of rail infrastructure, and 45 decisions concerned level crossings in their entirety or their part. Analogically, among the 39 decisions disrupting rail traffic or introducing its limitations, 19 were caused in full or in part by violations relating to level crossings.

The irregularity indicator in the case of level crossings amounted to 3.55, and the difference between 2016 and 2015 amounted to 1.44 (Fig. 2). The achievement of such a result indicates an improvement of safety within the discussed scope.

Figure 2. Results of supervisory activities conducted at level crossings in 2016

|  |  |
| --- | --- |
|  | share of supervisory activities during which no irregularities were identified |
| share of supervisory activities during which irregularities were identified |

### Number of serious injuries

The number of serious injuries caused in 2016 in significant accidents in the railway network in Poland decreased by 1% in comparison to 2015, i.e. from 93 to 92 persons.

The changes in 2016 compared to the previous year, broken down into individual categories of seriously injured persons, included in monitoring via common safety indicators are as follows:

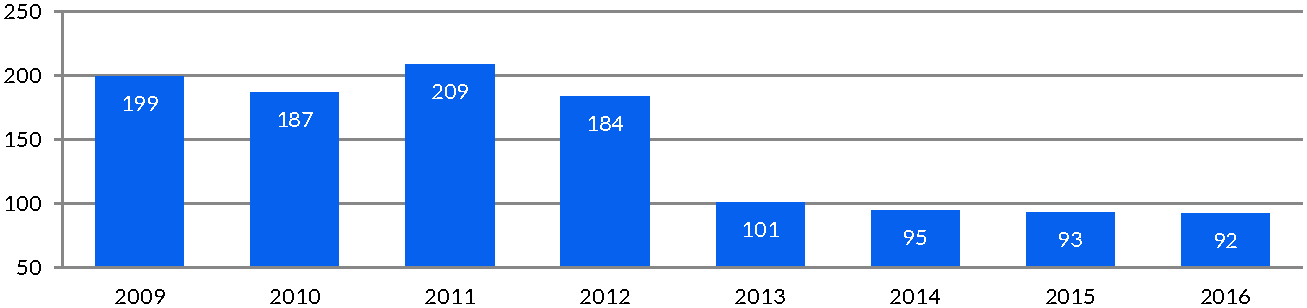
* passengers: a drop by 16.7% (from 6 to 5 persons);
* employees: a drop by 50% (from 4 to 2 persons);
* level crossing users: no changes (39 persons);
* unauthorised persons: an increase by 7% (from 43 to 46 persons);
* other: a drop by 100% (from 1 person to 0).

The aggregate data in this area is presented in the table below and the following charts taking into account the absolute values and indicators referring to the number of train-km.

Table 3 Number of serious injuries in significant accidents in 2009 – 2016

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Serious injuries | | Serious injuries per million train-km | |
| 2009 | 199 | - | 0.95 | - |
| 2010 | 187 | -6% | 0.85 | -11% |
| 2011 | 209 | 12% | 0.92 | 8% |
| 2012 | 184 | -12% | 0.82 | -11% |
| 2013 | 101 | -45% | 0.47 | -43% |
| 2014 | 95 | -6% | 0.44 | -6% |
| 2015 | 93 | -2% | 0.41 | -7% |
| 2016 | 92 | -1% | 0.39 | -5% |

Figure 3. Number of serious injuries in significant accidents in 2009 – 2016



Since 2012, there has been a decreasing tendency in the number of serious injuries per one million train-km. The indicators for 2012–2016 are as follows: 0.82 in 2012, 0.47 in 2013, 0.44 in 2014, 0.41 in 2015, 0.39 in 2016.

In this area, the President of the RTO initiated in 2016 measures analogous to the ones named in section 1.1 of the report.

### Number of significant accidents

In 2016, the number of significant accidents on the Polish rail network decreased by 13.7% compared to 2015, i.e. the total number dropped from 307 to 265 (a decrease of 21 occurrences). These changes are part of the overall downward trend in the number of significant accidents. The aggregate data in this area is presented in the table below and consecutive diagrams.

Table 4. Number of significant accidents in 2009 – 2016

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Number of accidents | | Number of accidents per million train-km | |
| 2009 | 523 | - | 2.51 | - |
| 2010 | 449 | -14% | 2.05 | -18% |
| 2011 | 488 | 9% | 2.15 | 5% |
| 2012 | 379 | -22% | 1.69 | -21% |
| 2013 | 328 | -13% | 1.51 | -11% |
| 2014 | 313 | -5% | 1.47 | -3% |
| 2015 | 307 | -2% | 1.36 | -8% |
| 2016 | 265 | -14% | 1.13 | -17% |

Figure 4. Number of significant accidents in 2009 – 2016

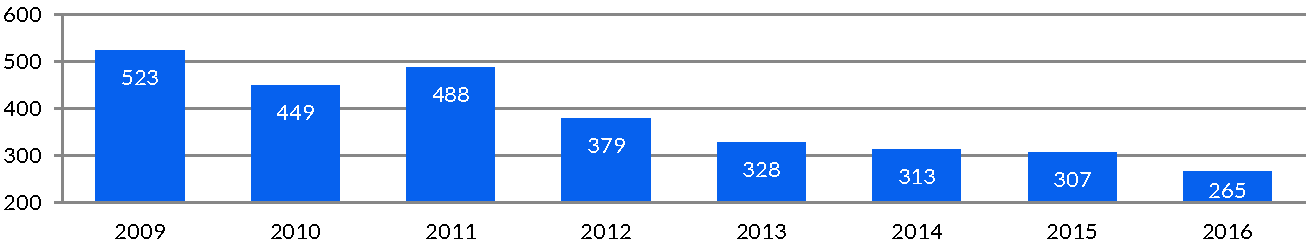
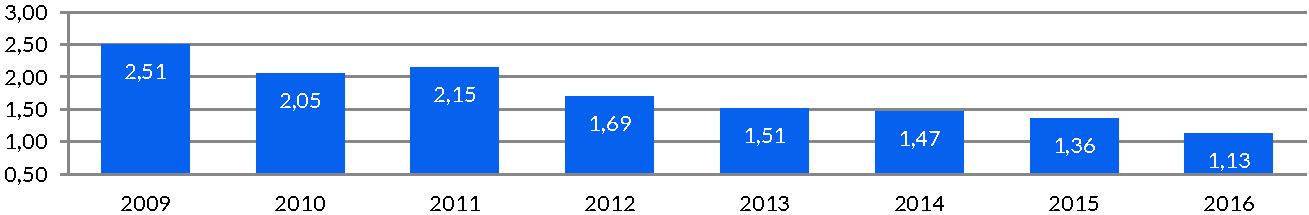


Figure 5. Number of significant accidents per one million train-km in 2009 – 2016



A similar trend can be observed in the number of significant accidents per one million train-km, which is presented in the diagram above. Comparing the number of significant accidents per 1 million train-km in 2015 and 2016, its reduction can be seen by 11.5%, i.e. from 1.36 to 1.13 respectively. It is related to a decrease in the number of significant accidents with a simultaneous increase in the operation work conducted by the carriers.

### Number of precursors of accidents

One of the categories of the common safety indicators are the indicators relating to the occurrences preceding the accidents, the so-called precursors of accidents. They include the following types of occurrences:

* Broken rails;
* Track buckles;
* Signalling failure;
* Cases of passing ‘Stop’ signal or passing other warning signals (information from automatic train protection systems, as well as, e.g. those forwarded verbally), divided into cases including passing and not including passing a dangerous point;
* Broken vehicle wheels;
* Broken vehicle axles.

The group of precursors of accidents also includes logs of occurrences that did not result in negative consequences thanks to the correct functioning of all procedures (e.g. passing a 'Stop' signal and the train being stopped by a train dispatcher), as well as those resulting in accidents (e.g. passing a 'Stop' signal resulting in a collision or derailment of a train). Gathering this type of data enables to monitor trends in areas where there are potential hazards, and to initiate preventive measures aimed at minimizing the accident probability.

The group of precursors of accidents indicated above that must be reported was developed at Community level. Its scope includes occurrences characterised by a high incidence and high likelihood of negative consequences in the form of a significant accident (in the event of a failure of relevant procedures or a failure to detect damage to infrastructure or a vehicle, which is critical from the point of view of rail traffic safety).

Table 5 presents the number of individual precursors of accidents taking into account percentage changes.

Table 5. Precursors of accidents in 2009 – 2016

| Year | Broken rails | | Track buckles | | Signalling failure | | Passing a 'Stop' signal | | Broken wheels | | Broken axles | | Total | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2009 | 1506 | - | 22 | - | 21 | - | 13 | - | 105 | - | 12 | - | 1679 | - |
| 2010 | 1461 | -3% | 23 | 5% | 16 | -24% | 13 | 0% | 23 | -78% | 3 | -75% | 1539 | -8% |
| 2011 | 1564 | 7% | 20 | -13% | 0 | -100% | 29 | 123% | 3 | -87% | 2 | -33% | 1618 | 5% |
| 2012 | 1800 | 15% | 53 | 165% | 5 | - | 33 | 14% | 3 | 0% | 4 | 100% | 1898 | 17% |
| 2013 | 1145 | -36% | 83 | 57% | 13 | 160% | 34 | 3% | 1 | -67% | 2 | -50% | 1278 | -33% |
| 2014 | 1293 | 13% | 77 | -7% | 10 | -21% | 64 | 88% | 1 | 0% | 0 | -100% | 1445 | 37% |
| 2015 | 1635 | 27% | 48 | -38% | 18 | 80% | 62 | -3% | 0 | -100% | 1 | - | 1764 | 22% |
| 2016 | 1705 | 4% | 28 | -42% | 0 | -100% | 75[[1]](#footnote-1) | 21% | 2 | - | 8 | 800% | 1818 | 3% |

The overall number of precursors of accidents in 2016 increased by 3.0% compared with 2015, i.e. from 1 764 to 1 818 (an increase of 54 precursors). In all the years listed in the table, the largest group of precursors of accidents is broken rails, which represented 94% of all precursors in 2016. The number of occurrences relating to the passing of a ‘Stop’ signal also increased, whereas the number of accidents in this category decreased in 2016 in comparison with the previous year from 20 to 18 (a drop by 10%), whereas the number of incidents increased from 44 to 57 cases (by almost 30%). This state should be associated with the intensified supervision of the correctness of notifications on the occurrences with less consequences than accidents, conducted by the President of the RTO, the number of which has been underestimated in the previous years. Due to the complexity of the reasons for the occurrence of these events in 2016, the President of the RTO initiated works on an innovative project that will allow to minimise the influence of the human factor on the level of safety. The initiative – Train Driver Monitoring Centre – is meant to increase and facilitate the process of examining train drivers. This will be a place where the competency of all the train drivers will be verified independently and objectively, which will also contribute to the improvement of the level of safety in rail transport.

When moving to the ‘Broken wheels’ category, it should be indicated that 1 occurrence was recorded in this category in 2016. The President of the RTO passed on the security alert concerning 42 mp wheels reported on 29 April 2016 by the NSA of France to the railway entities. Signalling failures were recorded in 2016.

Figure 6. Number of precursors of accidents in 2009 – 2016

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
|  | Broken rails | Track buckles | Signalling failure |  |
|  | Passing a 'Stop' signal | Broken wheels | Broken axles |  |

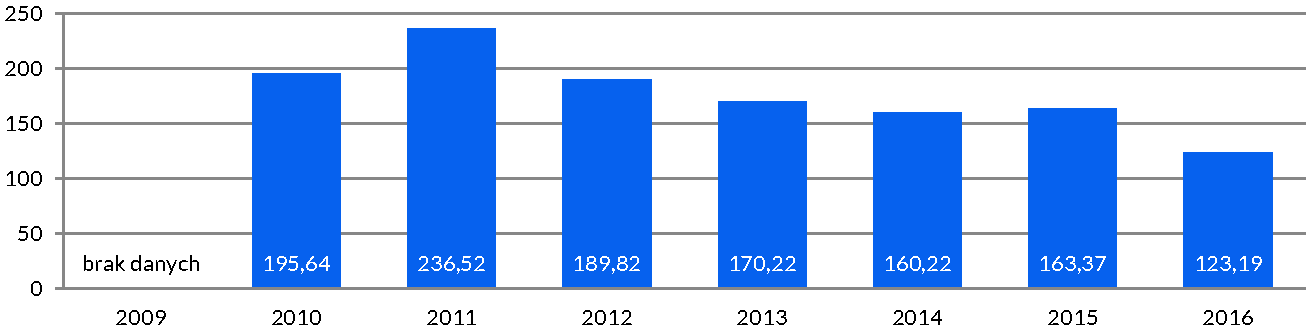
### Costs of significant accidents

The costs of significant accidents reached a peak in 2011; however, since then, a clear downward trend could be observed until 2014. The costs increased slightly in 2015 by 2% in comparison with 2014, i.e. from EUR 160.22 million to EUR 163.37 million (an increase by EUR 3.15 million), whereas in 2016 there was a noticeable repeated drop in the costs of significant accidents, i.e. from EUR 163.37 million do EUR 123.18 million (a drop by 40.19 million). This data is presented in Table 6 and Figure 7.

Table 6. Costs of significant accidents in EUR in 2009 – 2016

|  |  |  |
| --- | --- | --- |
| Year | Costs of significant accidents (EUR) | Change |
| 2009 | - | - |
| 2010 | 195,644,579 | - |
| 2011 | 236,523,677 | 21% |
| 2012 | 189,819,756 | -20% |
| 2013 | 170,223,520 | -10% |
| 2014 | 160,215,127 | -6% |
| 2015 | 163,372,767 | 2% |
| 2016 | 123,185,869 | -24% |

Figure 7. Costs of significant accidents in million EUR in 2009 – 2016



|  |  |
| --- | --- |
| brak danych | no data |

The costs of significant accidents were affected, among others, by the number of railway occurrence casualties. This is why the measures initiated by the President of the RTO, as mentioned in 1.1 and 1.2 hereof, should be translated into the reduced costs of significant accidents.

## Results of the safety recommendations

Pursuant to the Annex to Commission Regulation (EU) No 1158/2010 of 9 December 2010 on a common safety method for assessing conformity with the requirements for obtaining railway safety certificates, and Commission Regulation (EU) No 1169/2010 of 10 December 2010 on a common safety method for assessing conformity with the requirements for obtaining a railway safety authorisation, railway undertakings and infrastructure managers operating based on the safety management system are required to establish procedures to ensure that the recommendations of the national safety authority and national investigating body are evaluated and implemented if appropriate, or mandated (criterion Q2 of the common safety method for assessing conformity).

The President of the RTO, fulfilling the tasks pursuant to the Rail Transport Act, supervises the implementation of the SCIRA's recommendations by the entities, whose activity bears influence on rail traffic safety and the rail operation safety, as well as the regulated entities pursuant to the provisions of the Act. Therefore, the railway sector entrepreneurs have been notified of the obligation to submit information on the state of implementation of recommendations issued by the President of SCIRA to the RTO.

The annual report on the Committee's work contained the following recommendations:

Recommendation 1:

Infrastructure managers and railway undertakings, within the framework of the owned management systems, will continue the activities aimed at a decrease in the number of occurrences caused by poor technical condition of the rolling stock without propulsion.

Recommendation 2:

Infrastructure managers and railway undertakings with rail vehicles with installed digital data recording devices (speed, states of the devices, etc.) and the route monitoring devices (video or audio and video recording) will take measures aimed at equipping the members of railway committees with the proper tools allowing to read data from these recorders on the site of the occurrence immediately after it took place.

Recommendation 3a:

Due to the amendments in the provisions of the Act of 28 March 2003 on Rail Transport and the amendments to the implementing acts to the Act concerning the investigations following accidents, the infrastructure managers and operators will adapt the internal regulations and the safety and maintenance management systems (SMS/MMS) to the amended requirements of the national legal acts.

Recommendation 3b:

Due to the amendments in the provisions of the Act of 28 March 2003 on Rail Transport and the amendments to the implementing acts to the Act concerning the investigations following accidents, the infrastructure managers and railway undertakings will ensure that the employees appointed to work in railway committees have the up-to-date knowledge on the amended national and internal regulations, and safety and maintenance management systems, as well as technical knowledge.

Considering the need for a systemic approach to safety management and minimisation of risk in rail transport, and after analysis of the abovementioned recommendations by the Committee, the President of the RTO formulated an additional recommendation and relayed them for implementation to the entities.

Recommendation 4:

To submit to the President of the RTO information on the measures taken by the Entity to make sure that the results of investigation of rail occurrences contain the appropriate and in-depth analysis, including the identification of all the required causes.

#### Analysis of information concerning the implementation of recommendations

Regardless of the earlier notification on the obligation to submit information on the implementation of recommendations, the analyses of the submitted data draw attention to the fact that approx. 30% of the enterprises in the rail market have not submitted any information. It should be emphasised that among the 239 entities which have not submitted a response there is 1 infrastructure manager and 8 railway undertakings.

Figure 8. Summary of the responses of the entities to the letter of the President of the RTO concerning the obligation to provide information on the implementation of the SCIRA recommendations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | 458 entities  66% |  |
|  |  | response to the recommendations |
|  |  | lack of response (managers) |
| 230 entities  33% |  | lack of response (undertakings) |
|  |  | lack of response (other entities) |
|  | 8 undertakings | 1 manager |  |  |

As a result of the analysis of the information submitted by the entities, in the case of 369 responses the proposed method of implementation of recommendations was accepted (Fig. 9), representing over 80% of 458 entities. As far as the remaining enterprises in the rail market sector are concerned, letters have been sent to supplement and present the plan for implementation of the recommendations. Should entities not provide an appropriate reply, the President of the RTO will react during supervisory activities.

Figure 9. Assessment of the method of implementation of recommendations proposed by the entities

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  | the proposed method of implementation of the recommendations has been accepted |
| 369 entities  80.04% |  | a letter was sent calling for supplements |
|  | 89 entities 19.96% | |
|  |  |  |

In the course of the analysis of the stage of implementation of recommendations declared by the entities (taking into account the averaged values), it can be stated that the recommendations have been implemented in 28% of cases; in 23% of the entities they are in the course of implementation; in 2% of the entities alternative measures have been taken; 42% of the entities were not concerned by the recommendations; while in the case of 5% a lack of information has been recorded.

In the course of supervision of the implementation of recommendations by the entities whose operation bears influence on rail traffic safety and rail operation safety, in 2016 the President of the RTO conducted 74 inspections on the site of business activity of railway undertakings.

The number of inspections conducted within the scope of particular recommendations is as follows:

* implementation of recommendation 1 – 36 entities inspected;
* implementation of recommendation 2 – 18 entities inspected;
* implementation of recommendation 3a – 56 entities inspected;
* implementation of recommendation 3b – 43 entities inspected;
* implementation of recommendation 4 – 27 entities inspected.

The general results of supervision divided into implementation of particular recommendations are as follows:

Within the scope of Recommendation 1:

69 supervisory actions were performed, including several inspections of selected railway undertakings and the premises of PKP PLK. In the case of some entities there were irregularities identified, relating, among other things, to:

* the lack of cooperation between rail market entities in the cases relating to the common risk areas between the infrastructure manager and the railway undertakings, which hinders the implementation of proper risk management measures;
* the failure to comply with the requirements concerning vehicle maintenance, non-conformance within the scope of documentation and supervision of its keeping;
* the non-conformance of the actions taken with the binding standards and regulations;
* irregularities within the scope of using fault detection equipment in rolling stock (DSAT);
* incorrect qualification of events.

Attention should be given to the actions taken by the controlled entities aimed at the implementation of the recommendation discussed, e.g. the increased number of inspections of the technical condition of the rolling stock and the train test runs, supervision of the technical condition of the wagons, monitoring of the devices recording damage and formulation of conclusions, as well as taking corrective and preventive measures contributing to a decrease in the amount of damage.

Within the scope of Recommendation 2:

40 supervisory actions were performed, including several inspections of selected railway undertakings and the premises of PKP PLK. The conducted actions identified, among other things: failure to equip the members of the railway committee with proper tools for reading data from electronic recorders of running parameters. In one case there was an indication on taking pilot actions allowing for online reading of the recordings of cameras monitoring the routes. In some cases, there were no irregularities identified within this scope, which means that the entities took actions in accordance with the recommendation issued.

Within the scope of Recommendation 3a:

86 supervisory actions were performed, including several inspections of selected railway undertakings and the premises of PKP PLK. Irregularities were identified at a significant number of the supervised entities, concerning, among others: the failure to adapt the work regulations to the provisions of the applicable laws, lack of adjustment of the SMS system to new regulations or the outdated records in the maintenance system documentation. In some cases, there were no irregularities identified, which means that the internal regulations have been adjusted in accordance with the requirements of the national legal acts.

Within the scope of Recommendation 3b:

67 supervisory actions were performed, including several inspections of selected railway undertakings and the premises of PKP PLK. In the course of the conducted inspections it has been determined that within the framework of implementation of this recommendation the entities are sending employees to train in order to improve their qualifications and adapt the internal regulations to the applicable laws. However, during the performance of checks a case was identified where members of the committee were not sent for training.

Within the scope of Recommendation 4:

45 supervisory actions were performed, including several inspections of selected railway undertakings and the premises of PKP PLK. As a result, there were irregularities identified concerning, among others: incorrectly completed documentation, lack of cooperation with the entities within the scope of exchange of information, failure to prepare the required bulletins. The conducted actions identified that the measures taken to implement the abovementioned recommendation include the SMS analyses after occurrences and training of employees within the scope of legal requirements.

The President of the RTO, during an analysis of the data collected concerning the implementation of recommendations received from the authorised rail infrastructure managers, certified railway undertakings, entities responsible for maintenance and entities operating on the basis of safety certificates, stated that:

* the level of implementation of the recommendations by the entities functioning on the basis of SMS or a different adopted management system (infrastructure managers, railway undertakings, siding users) should be assessed as satisfactory;
* a high number of entities, in particular those operating on the basis of safety certificates, have not submitted any information on implementation of the recommendations.

The specific causes of the lack of response from the siding users will be possible to identify owing to supervisory actions. In the case of siding users – a relatively new category of entities, which is covered by obligations within the scope of rail occurrences (inter alia information about occurrences, reporting within the scope of the occurrences which took place, as well as implementation of the recommendations), the cause of the failure to submit the required information could be little experience in the area discussed. These entities are covered by the abovementioned obligations from 1 March 2016, whereas the legislator provided a short, 6-month period for adjustment of the internal regulations to the new provisions of the Regulation on serious accidents, accidents and incidents in rail transport.

In relation to entities, which have not responded and those for which the proposed method of implementation of the recommendations has not been accepted, notices were sent, calling to provide supplements or further clarifications. In the case of a lack of response to the notices, the President of the RTO will take supervisory actions within this scope.

The SCIRA's recommendations constitute an important element and inspiration for actions within the area of education and safety monitoring conducted in the Rail Transport Office, such as: periodical meetings of the Safety Team, training for the rail market entities as part of the RTO Academy and the ‘Safety Culture’ (‘Kultura Bezpieczeństwa’) project.

## Implemented measures not relating to safety recommendations

Table 7 contains a list of the most important safety measures introduced by the Rail Transport Office as the national safety authority, together with a description of the reasons for their introduction.

Table 7. The most important safety measures introduced by the national safety authority

|  |  |  |  |
| --- | --- | --- | --- |
| Area | Description of causes | Safety measure introduced | Number of decisions issued |
| Operation of rail vehicles | Recurring irregularities with respect to railway vehicle maintenance and recurring failures reducing the safety level | * Administrative decisions excluding railway vehicles from operation or restricting their operation, * Administrative decisions ordering the elimination of any irregularities before a specific deadline. | 500 |
| Safety management systems | Irregularities connected with the safety management system implementation. | * Decisions ordering the elimination of any irregularities before a specific deadline, * Decisions concerning withdrawal of a safety certificate or suspension of an ECM certificate. | 27 |
| Rail infrastructure maintenance | Irregularities in infrastructure maintenance. | * Decisions ordering the elimination of any irregularities before a specific deadline, * Administrative decisions restricting traffic on railway lines or railway sidings, * Administrative decisions disrupting rail traffic on railway sidings. | 156 |
| Fines | Violations subject to a fine based on the provisions of the Rail Transport Act or the Act on the Transport of Dangerous Goods. | * Decisions on imposing a fine for violations identified | 66 |

The national safety authorities or the national investigation bodies, having analysed the information on railway system safety, may decide that particular information is likely to be important for another Member State.

In 2016, similar to previous years, the national safety authorities published safety alerts concerning hazards identified in particular railway systems of the Member States in the Safety Information System managed by the Agency.

Actions taken by the President of the RTO in the area of safety alerts in 2016 concentrated (similarly to the previous years) on the potentially immediate sharing of the contents of the alerts translated to Polish including an indication of the need to conduct a systemic analysis. Information was also published on whether a given safety alert can bear influence on the conducted activity of the undertaking and the assessment of potential risk relating to the occurrence of the event described in the safety alert.

Due to the occurrence of 14 cases of broken frames of 37AN running bogies, on 19 February 2016 the President of the RTO issued a safety alert.

In 2016, the President of the RTO notified the national railway market entities, both via the website and by information sent directly to the appointed people, on publishing new safety alerts in the Safety Information System, i.e.

* concerning a derailment of a freight train on 24 April 2016, which occurred in France, as a result of a displacement of the right wheel axle of the first 42 mp wheel-set of the wagon by 30 cm to the centre;
* of the Finnish National Safety Authority (Trafi), on the derailment of the coal transport wagons due to the failure of the Axle Motion III bogie (K-17) – the screws joining the pedestal strap with the structure of the pedestal box became loose while the train was running as a result of vibrations;
* of the Italian National Safety Authority (ANSF), relating to the safety alert issued by the President of the RTO, informing railway undertakings and entities responsible for the maintenance of freight wagons on the possible breaks in the frames of 37ANa running bogies and the 24MN bogies. Based on this alert, a decision has been made to withdraw from operation the vehicles with installed indicated bogies and procedures of validation for new vehicles have been suspended;
* of the Finnish National Safety Authority (Trafi) published relating to the detected issue of C333 composite brake blocks, occurring in particular during difficult weather conditions;
* of the Hungarian National Safety Authority (NIB Hungary) relating to the reoccurring issue that can lead to a sudden loosening of the additional brake in the Siemens Vectron X4 Family A locomotive as a result of compressed air escaping from the pneumatic system.

If, according to the President of the RTO, the information on the railway system safety may be relevant to other Member States, such information will be entered in the Safety Information System immediately.

# Supervision

## Strategy and plans

Pursuant to Articles 3 and  7 of the Commission Regulation (EU) 1077/2012 of 16 November 2012 on a common safety method for supervision by national safety authorities after issuing a safety certificate or safety authorisation (OJ L 320, 17.11.2012, p. 3 et seq.), concerning, among other things, the obligation to develop strategy and Supervision Plan, presentation of the general aims of this strategy and decision-making criteria, the President of the RTO each year prepares a document presenting the description of the supervision strategy and supervision plan for the following year. The Supervision Plan comprises the analyses of the supervised areas and the division of supervisory activities into particular subject scopes. The description of the implemented measures constitutes input data for the planning of supervisory activities for the following year. The entirety of these activities – fulfilling the definition of a process – transforms the input data, i.e. the results of supervisory activities, to output data, i.e. the plan of supervisory activities. This process is conducted in annual cycles, and the knowledge gained this way allows for the identification of the vulnerable areas in the railway system and adequate planning for activities for the following year.

Furthermore, the President of the RTO continuously monitors the level of safety of rail traffic and in the case of receiving information on a potential hazard, the President of the RTO takes additional supervisory measures which are not included in the Supervision Plan. Signals which motivate the execution of interim activities come from various sources, including, inter alia, reports received by the Office and the ongoing analysis of data on rail market. It must be highlighted that all supervisory activities carried out by the President of the RTO are aimed at ensuring proper functioning of the rail market; however, ad hoc activities require immediate intervention due to high likelihood of a hazard to rail traffic safety and, therefore, are impossible to plan.

It should be highlighted that the implementation of unplanned supervisory activities does not disrupt the Supervision Plan. This is possible because interim activities are an integral element of maintaining supervision over rail traffic safety by President of the RTO. Constant monitoring of the market and reaction to negative trends warrants execution of ad hoc activities. Because of the dynamics of rail traffic and the events it involves, some activities are not included in the Supervision Plan. However, that does not mean that such activities are not subject to forecasting. Based on long-term experiences and conclusions drawn from activity analysis, carried out on an interim basis in previous years, a timetable of planned activities is estimated, including the need to carry out interim activities. This leads to maintaining an adequate reserve of resources for the purpose of execution of activities not included in the Supervision Plan and makes it possible for the President of the RTO to immediately respond to the current situation on the rail market.

The preparation of this document is carried out based on the analysis of statistical data involving the results of supervisory activities from previous years, rail occurrences and other data available at the Office.

Table 8 Supervision priorities of the President of the Rail Transport Office for 2016

| Item | Scope of supervisory activities by subject |
| --- | --- |
| 1. | Supervision of entities with safety authorisations and safety certificates in the process of recertification, including selected criteria of SMS and compliance with the terms of issue of licences |
| 2. | Supervision of compliance with the terms of issue of licences for the provision of traction services |
| 3. | Supervision of certificates issued to entities responsible for maintenance of vehicles and certificates issued for maintenance |
| 4. | Supervision of the work of rail committees |
| 5. | Supervision of the condition of infrastructure and the maintenance process in terms of Safety Management Systems |
| 6. | Supervision of the technical condition, the maintenance process, the classification of intersections of railway lines with roads, including in particular level crossings where rail occurrences took place |
| 7. | Supervision of the correctness of records within technical regulations concerning stations |
| 8. | Supervision of the functioning of technical rescue teams of infrastructure managers in terms of  Safety Management Systems |
| 9. | Supervision of the safety of the operation of railway sidings |
| 10. | Supervision of the management of rail traffic |
| 11. | Supervision of the preparation and implementation of the transport process together with elements of  infrastructure maintenance |
| 12. | Supervision of the technical condition of rail vehicles and their labelling |
| 13. | Supervision of the process of transport of dangerous goods via rail |
| 14. | Supervision of the transport of waste containing dangerous substances |
| 15. | Supervision of the compliance with the passengers’ rights and the quality of service in rail transport |
| 16. | Supervision of the degree of preparedness to operate in winter conditions as regards Safety Management Systems. |
| 17. | Supervision of the qualifications of the staff relating to rail traffic safety |
| 18. | Supervision of the working time of the train drivers hired in multiple entities and of the submission and delivery to the President of the RTO of train driver reports |
| 19. | Supervision of the work of examining committees |
| 20. | Supervision of training facilities included in the list of entities qualified to train  and examine candidates for licences and certificates of train drivers, as well as of the work of examining committees |
| 21. | Supervision of functioning of the rail occupational medicine |
| 22. | Supervision of the market of goods used in rail industry, including interoperability  of the rail system |
| 23. | Supervision of compliance with fundamental requirements by cable cars |
| 24. | Supervision of transportable pressure equipment |
| 25. | Supervision of functioning of notified certifying bodies |
| 26. | Supervision of functioning of notified research laboratories |
| 27. | Supervision of the safety of the metro |

## Supervision of management systems in railway transport

The safety management system, as defined by the provisions of the rail transport act, is the organisation and activities adopted by the manager and by the railway undertaking for the purpose of maintaining safety. The system, the basic components of which were defined by the Regulation of the Minister of Transport of 19 March 2007 on the rail transport safety management system (consolidated text: Journal of Laws of 2016, item 328), constitutes a coherent and logically structured whole, where all procedures and processes are interlinked and interact with each other. Therefore, it can be defined as a sum of processes supporting the preparation, planning, implementation and auditing of activities as part of the normal operation of the company. Implementation of a structured approach makes it possible to indicate hazards and constantly monitor the risks associated with the operation of the entity, in order to prevent accidents. Proper implementation of all crucial SMS elements provides the supervising body with the necessary certainty that the entity audits and will continue to audit all risks associated with its operation under all conditions.

The system must be established and, to meet its primary objective, which is maintaining safety, needs to be implemented and applied. Therefore, neglecting the implementation of these activities obviously contributes to reducing the level of safety.

The correctly functioning safety management system (SMS) is the primary prerequisite for the acquisition by the infrastructure manager/railway undertaking of an authorisation/safety certificate, respectively. SMS procedures encompass all processes which influence safety, therefore, the control of the entire system or its selected procedures allows comprehensive supervision of the compliance of the entity of rail safety requirements, including requirements which are not checked during dedicated thematic audits. An example could be the control of the risk associated with material and service delivery or the control of the continuous improvement process, which serves as a 'driving force' for the entire system. It also needs to be highlighted that the common safety method for assessing conformity with the requirements for obtaining railway safety certificates and safety authorisation, described appropriately in Commission regulation (EU) No 1158/2010 of 9 December 2010 on a common safety method for assessing conformity with the requirements for obtaining a railway safety certificates (OJ L 326/11 of 10 December 2010) and in Commission regulation (EU) No 1169/2010 of 10 December 2010 on a common safety method for assessing conformity with the requirements for obtaining a railway safety authorisation (OJ L 327/13 of 11 December 2010), designate uniform criteria of conformity assessment for the entire European Union with the requirements for obtaining such documents. However, the audits carried out on the basis of uniform criteria make it possible to acquire comparable results, while the comparison of the irregularities identified allows assessment of the safety level for the entire sector. It should be highlighted that the primary goal of the audit is not just identification of irregularities but achieving the expected level of safety by the entity.

In 2016, the number of audits within the scope of supervision of entities operating in compliance with the safety management system reached 131. As a result of 112 operations, 996 irregularities were identified, which means that irregularities were identified in around 85% of implemented activities within this area. Within this scope, the incidence of irregularities for 2016 is 7.6, while the difference between incidence of irregularities between 2016 and 2015 was -1.34.

Figure 10. The results of supervisory activities carried out within the scope of supervision of entities operating in compliance with the Safety Management System in 2016.

|  |  |  |
| --- | --- | --- |
| THE PERCENTAGE OF SUPERVISORY ACTIVITIES WHICH RESULTED IN THE IDENTIFICATION OF IRREGULARITIES 85.5% |  | THE PERCENTAGE OF SUPERVISORY ACTIVITIES WHICH DID NOT RESULT IN THE IDENTIFICATION OF IRREGULARITIES 14.5% |

The main irregularities present within the analysed area, in relation to infrastructure managers, include:

criterion A – Risk management measures for all risk factors associated with the operation of the infrastructure manager:

* improperly carried out process of assessment and analysis of operational risk;
* lack of monitoring of risk management measures;
* improper management of common risk;

criterion B – Control of the risk associated with provided management services and delivered materials:

* lack of audit of the effectiveness of the activities within the scope of management of rail vehicles;
* lack of supervision of documentation, which is the basis for management activities of the possessed rolling stock;
* maintaining vehicles without compliance with the requirements specified in the documentation of the management system;

criterion C – Control of the risk associated with the involvement of the contractors and control of the suppliers:

* improper supervision of the assessment process of the suppliers;
* failure to include within the orders of records concerning duties within the scope of supplier safety;
* failure to include within the list of qualified suppliers of all entities;

criterion D – Risk resulting from activities of other parties outside the rail system:

* failure to carry out risk assessments for hazards from outside the rail system;

criterion E – Documentation of the safety management system:

* failure to record changes introduced into SMS;

criterion F – Sharing of responsibilities:

* lack within the organisational structure of the company of the position of SMS representative;
* failure to include in the documentation positions which are not directly connected with management and safety of rail traffic;

criterion G – Maintaining control by the management on various levels:

* failure to implement the procedure of holding the persons responsible accountable for their results (lack of supervision of the execution of post-audit recommendations and results of internal audits;

criterion H – Involvement of the staff and their representatives on all levels:

* failure to carry out consultations with the staff concerning introduction of changes into SMS;

criterion I – Providing continuous improvement:

* lack of assessment of the effectiveness of activities and monitoring;

criterion K – quantitative and qualitative goals of the organisation within the scope of management and improvement of safety as well as plans and procedures for the purpose of achieving these goals:

* lack of monitoring of goals designated within safety improvement programmes;

criterion L – Procedures for the purpose of compliance with existing, new and revised technical and operational norms or other standard norms:

* improper keeping of documentation associated with infrastructure management;

criterion M – Procedures and methods of carrying out risk assessment and implementation of risk management measures in situations where changing the conditions of the activity performed or the introduction of new material generates a new risk for the infrastructure or activity performed:

* introduction of a change without providing compliance with the mode designated in the procedure;

Criterion N – Ensuring a training programme of the employees and systems ensuring the employees’ competence is maintained and tasks are carried out correctly:

* lack of appropriate supervision of the competency of the staff (training, examinations);
* lack of appropriate supervision of the documentation relevant to employee competency;

criterion O – Mechanisms of providing sufficient access to information within the organisation and, in appropriate situations, exchange of information between organisations utilising the same infrastructure:

* lack of provided applicable internal instructions;

criterion P – Procedures and formats of information recording in the scope of safety and establishing a procedure of configuration control of important data in the scope of safety:

* lack of consistency of records within documentation;
* lack of records in documentation;

criterion Q – procedures ensuring accidents, incidents, near misses as well as other dangerous events are reported, investigated, and analysed and that the required preventive measures are taken:

* failure to analyse potentially dangerous situations;
* lack of conclusions in final memoranda of understanding;
* failure to implement remedial measures designated within final memoranda of understanding;

criterion R – Provision of action plans, emergency procedures and information in critical situations, which have been agreed with appropriate public authorities:

* lack of exercises and simulations involving response to potential hazards;

criterion S – Regulations on periodic internal audits of the safety management system:

* failure to inform the management of the results of the internal audit;
* lack of authorisation of trained personnel to perform safety audits;

criterion T – Safe design of rail infrastructure:

* lack of systemic solutions for providing designers with guidelines on design matters;

criterion U – Infrastructure servicing safety:

* failure to carry out investigations and inspections of rail infrastructure;
* failure to remove defects identified during diagnostic investigation;
* failure to perform inspection rounds with the required frequency;
* servicing infrastructure of improper technical condition;
* improper marking;
* improperly kept documentation associated with management;
* failure to keep documentation associated with management;
* failure to fulfil requirements concerning the distance and conditions which allow trees and bushes to be situated at a distance of less than 15 m;

criterion V – Providing management and material delivery services:

* lack of proper supervision of ongoing management works;
* lack of supervision of documentation involving the investment process of renovation works;

criterion W – Management and servicing of the railway traffic signalling equipment:

* failure to provide appropriate supervision of the management of railway traffic signalling equipment;
* improper time intervals between maintenance works;
* failure to comply with the recommendations relating to diagnostic investigation of railway traffic signalling equipment.

The main irregularities, within each criterion, in relation to the railway undertaking include:

criterion A – Risk management measures for all risk factors associated with the operation of the railway undertaking:

* lack of monitoring of the effectiveness of risk management measures,
* failure to include hazards resulting from the activity performed;
* improperly carried out process of risk assessment, e.g. by failing to include the servicing work performed;
* lack of cooperation with other entities within the scope of common risks;

criterion B – Control of the risk associated with provided management services and delivered materials:

* failure to comply with inspection – repair cycles;
* failure to take the required measurements;
* failure to document the inspections performed – repair works;

criterion C – Control of the risk associated with the involvement of the contractors and control of the suppliers:

* failure to assess the suppliers of services associated with safety;
* assessment of the suppliers of services associated with safety without compliance with adopted criteria;
* improper keeping of the documentation associated with the cooperation with suppliers of services associated with safety;

criterion D – Risk resulting from activities of other parties outside the rail system:

* failure to monitor the hazards generated by parties from outside the rail system;
* failure to carry out risk management measures resulting from activities of other parties outside the rail system;

criterion E – Documentation of the safety management system:

* lack of updates in SMS documentation;
* lack of compliance of SMS documentation with facts and the law;

criterion F – Sharing of responsibilities:

* improperly defined responsibilities associated with safety;
* improper division of tasks associated with safety;
* failure to provide the required measures for the purpose of the performance of tasks;

criterion G – Maintaining control by the management on various levels:

* lack of effective monitoring of the performance of tasks within the scope of the activity performed;
* failure to assess the influence of other activities on the safety management system;
* failure to comply with the procedures of holding accountable persons performing activities in the scope of the safety management system;

criterion H – Involvement of the staff and their representatives on all levels:

* failure to conduct consultations on defining, proposing, reviewing and developing aspects of operational procedure safety with delegates or employee representatives;

criterion I – Providing continuous improvement:

* failure to apply corrective or preventive measures in response to irregularities identified within the system;
* failure to assess the effectiveness of corrective or preventive measures;
* carrying out a management review without including all required input data;

Criterion J – Safety policy approved by the executive director of the organisation and provided to all staff members:

* failure to implement the priorities adopted in the policy;
* lack of familiarity with the policy among the staff;

criterion K – quantitative and qualitative goals of the organisation within the scope of management and improvement of safety as well as plans and procedures for the purpose of achieving these goals:

* lack of implementation of planned goals;
* failure to gather all relevant data on safety for the purpose of assessment of the trends in relation to the state of safety and assessment of compliance with the goals;
* lack of a procedure involving the assessment of compliance of safety goals with the standards;

criterion L – Procedures for the purpose of compliance with existing, new and revised technical and operational norms or other standard norms:

* lack of updates of internal regulations to the latest legal requirements;
* failure to adjust internal regulations to real organisational requirements;
* improper marking of rail vehicles;

criterion M – Procedures and methods of carrying out risk assessment and implementation of risk management measures in situations where changing the conditions of the activity performed or the introduction of new material generates a new risk for the infrastructure or activity performed:

* lack of assessment of implemented changes;

Criterion N – Ensuring a training programme of the employees and systems ensuring the employees’ competence is maintained and tasks are carried out correctly:

* lack of appropriate supervision of the competency of the staff (training, authorisations, inspections);
* lack of appropriate supervision of the documentation relevant to employee competency;

criterion O – Mechanisms of providing sufficient access to information within the organisation and, in appropriate situations, exchange of information between organisations utilising the same infrastructure:

* lack of familiarity of the staff with SMS documentation;
* lack of familiarity of the staff with changes in SMS documentation;

criterion P – Procedures and formats of information recording in the scope of safety and establishing a procedure of configuration control of important data in the scope of safety:

* lack of completeness, consistency and appropriate documentation of crucial information associated with safety (improper registry keeping of rail vehicles, failure to properly fill in the vehicle boarding cards);
* using forms not included in SMS documentation;
* improper documentation of completed tasks (lack of dates, signatures, other data);

criterion Q – procedures ensuring accidents, incidents, near misses as well as other dangerous events are reported, investigated, and analysed and that the required preventive measures are taken:

* lack of registration, inspection and analysis of near misses and other dangerous occurrences;
* failure to implement the recommendations (remedial measures);

criterion R – Provision of action plans, emergency procedures and information in critical situations, which have been agreed with appropriate public authorities:

* lack of procedures describing critical situations;
* failure to implement actions for the purpose of emergency procedure testing;

criterion S – Regulations on periodic internal audits of the safety management system:

* lack of familiarity of the management with the results of audits;
* failure to ensure the independence of the audit system (independence and impartiality of the auditors);
* failure to audit all processes and procedures of the safety management system.

In the case of identification of irregularities involving the implementation of SMS system, the President of the RTO is equipped with two tools – identification of non-compliance with rail transport regulations including the date of their removal (Article 14(1) of the Act on rail transport) and withdrawal of safety authorisation or safety certificate for the rail infrastructure managers (Article 18a(6)(2) of the Act on rail transport) or railway undertaking (Section18(8)(2) of the Act on rail transport). Withdrawal of safety authorisation or safety certificate results in the elimination of an entity from the market, which means that such decisions significantly influence the rail market.

In 2016, the President of the RTO issued two decisions completely withdrawing a safety certificate of a railway undertaking and in four cases discontinued the administrative proceedings.

The cause of the decision of withdrawal of a certificate in the aforementioned cases were irregularities in the scope of implementation of the safety management system revealed during an audit.

In one of the cases, the President of the RTO discovered irregularities concerning the implementation of the safety management system in the form of a failure to achieve the compliance assessment criteria with the requirements involving the acquisition of a safety certificate – issued in accordance with Article 10(2)(a) of the Directive 2004/49/EC of the European Parliament and the Council or 29 April 2004 on safety on the Community’s railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (Directive on rail safety) (OJ L 164/44 of 30 April 2004 as amended), i.e. associated with the implementation of procedures:

* operational risk assessment;
* personnel competency management;
* internal auditing;
* supplier competency verification;
* consistency and up-to-date character of the records of the safety management system documentation.

No appropriate measures – whether during the stage of audit proceedings or administrative proceedings – for the purpose of removing detected irregularities were implemented.

In the second case, the irregularities identified were related to practically every criterion of a properly functioning system, i.e. relating to, among others, operational risk assessment procedures, management of rail vehicles, service supplier assessment, internal audits and auditing, improvement of the safety management system and qualifications of the staff.

In 2016, the President of the RTO confirmed the previously contested decision, completely withdrawing a safety certificate. In both cases, in a comprehensive justification, the President of the RTO reminded of the responsibilities of licensed and certified railway undertakings. In these cases, the President of the RTO stated that the carriers failed to implement the safety management systems and failed to apply it in practice.

Additionally, it needs to be reminded that the rail transport act imposes on the carrier the responsibility of fulfilling the organisational conditions, which ensure safe operation of rail traffic, safe servicing of rail vehicles, as well as fire safety and environmental protection. These conditions are clarified by the same companies within the safety management system of the railway undertaking in rail transport, which has been approved by the authority. It should be highlighted that the provisions of each of the procedures of the safety management system are defined by the carriers themselves, which shape them in a manner which best suits their activities.

The maintenance management system (MMS) involves a set of procedures and instructions for the purpose of minimising the risk linked to the maintenance of a rail vehicle, and as a result it ensures that the maintained vehicles are capable of safe movement within the rail network. The system should enforce maintenance in compliance with the documentation relevant to a given vehicle and guidelines and provisions resulting from applicable regulations, including Technical Interoperability Specifications. Development and implementation of the maintenance management system is the responsibility of so-called entities responsible for maintenance.

The goal of an entity responsible for maintenance is to ensure that the vehicles are capable of moving within the railway network safely. A tool used for the purpose of achieving that goal is the aforementioned maintenance management system, which is a set of procedures and instructions, which must be implemented by the entity to minimise the risk involved with the maintenance activities performed.

Commission regulation (EU) No 445/2011 of 10 May 2011 on a system of certification of entities in charge of maintenance for freight wagons and amending regulation (EC) No 653/2007 (OJ L 122/22 of 11 May 2011) describes a series of requirements which must be met by a maintenance management system and indicates the criteria utilised in the certification process for the purpose of its assessment. A characteristic feature of the maintenance management system is its division into four functions:

* management function, which allows supervision of three-so called maintenance functions, described in the following subsections, and their coordination, as well as ensures safety of freight wagons within the rail system;
* maintenance development function, which is used for the purpose of formation of maintenance documentation of a vehicle based on the project documentation of the vehicle and its servicing experiences;
* maintenance management function of the rolling stock, also known as fleet management, which is used for the purpose of the management of removal of a wagon from service and its reintroduction;
* maintenance execution function, which makes it possible to carry out required maintenance of a wagon or part thereof.

Creation and implementation of maintenance management system is a condition to acquire a certificate of an entity responsible for maintenance or certificate of maintenance function. This matter is verified during the stage of certification process, conducted by the President of the RTO and then during the supervision of the certificate holder.

The rules of the audits of these entities were also described within Regulation 445/2011. Annex III to this document designates the requirements and criteria of assessment in relation to the organisation applying for a certificate of an entity responsible for maintenance. In accordance with the provisions of this regulation, the authority must, at least once a year, carry out inspections on the premises of selected facilities, representative in geographic and functional terms in relation to the entirety of activity of entities responsible for maintenance, to which the organ has granted certificates, for the purpose of verification whether the entities still meet the criteria described in annex III. Regardless of the obligation imposed by the aforementioned regulation, crediting the MMS audit systems as one of the supervision priorities of the President of the RTO stems from the importance of the functions performed by certified ECM within the rail system. Freight wagons are the most numerous group of rail vehicles and their proper maintenance is a condition of maintaining safety of rail transport. The MMS system encompasses all processes associated with the maintenance of rail vehicles (freight wagons); therefore, its audit allows to uncover irregularities attributable to the ECM, repair shop or even the carrier.

In 2016, 64 supervisory activities were carried out within the scope of supervision of entities operating based on the maintenance management system, and during 50 operations 359 irregularities were identified, which means that irregularities were identified in around 78% of implemented activities within this scope. The rate of irregularities within this scope is 5.61. Regarding audits within MMS, the difference in ratio between 2015 and 2016 is -0.99, which means that in this field fewer irregularities are being reported during audit activities implemented by the President of the RTO.

Figure 11. The results of supervisory activities carried out within the scope of supervision of entities operating in compliance with the Maintenance Management System in 2016.

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| THE PERCENTAGE OF SUPERVISORY ACTIVITIES WHICH RESULTED IN THE IDENTIFICATION OF IRREGULARITIES 78.1% |  | THE PERCENTAGE OF SUPERVISORY ACTIVITIES WHICH DID NOT RESULT IN THE IDENTIFICATION OF IRREGULARITIES 21.9% |

The main irregularities present within this scope are:

criterion I.1 – Leadership – involvement in development and implementation of the maintenance system of the organisation and continuous improvement of its effectiveness:

* lack of assessment of implementation of the safety goals within the scope of maintenance;
* failure to notify the staff associated with maintenance of freight wagons of the established safety goals;
* failure to assess the influence of other management activities on the MMS system;

criterion I.2 – Risk assessment – comprehensive approach to the risk assessment associated with the maintenance of freight wagons, including the risk directly resulting from operational processes and activities of other organisations or persons, as well as formulation of appropriate risk assessment measures:

* failure to carry out the hazard identification process or failure to include all hazards within the 'Hazard Record';
* improperly estimated hazard probability;
* failure to carry out risk assessments of hazards identified;
* lack of analysis of the risk resulting from damage and malfunctions inflicted in the process of servicing of freight wagons;

criterion I.3 – Monitoring – comprehensive approach towards ensuring the implementation of risk audit measures which are functioning correctly and making it possible to achieve the goals of the organisation:

* lack of monitoring of the indicators resulting from MMS documentation;
* failure to implement Regulation 1078/2012;

criterion I.4 – Continuous improvement – comprehensive approach towards the analysis of data accumulated through regular monitoring and auditing or information from other applicable sources, as well as implementation of the conclusions for the purpose of learning and implementing preventive and corrective measures to maintain or improve the level of safety:

* failure to utilise all sources relevant to the process;
* failure to assess the potential influence of the change on safety;

criterion I.5 – Structure and responsibility – comprehensive approach towards the assessment of the scope of responsibility of units and teams for the purpose of reliable implementation of goals of the organisation within the scope of safety:

* failure to include all positions associated with maintenance within the documentation of the system;
* improper supervision of the management of the implementation of MMS system procedures;

criterion I.7 – Information – comprehensive approach towards ensuring that crucial information is available to all persons issuing opinions and decisions on all levels of the organisation:

* improper supervision over updating the MMS documentation;
* management of the registry of rail vehicles without compliance with the requirements;
* marking of freight wagons without compliance with the requirements;

criterion I.8 – Documentation – comprehensive approach towards ensuring the traceability of all crucial information:

* lack of monitoring and updating of the documentation of the maintenance management system;
* lack of updating of the applicable internal instructions of ECM;

criterion I.9 – Activities within the scope of contracting – comprehensive approach towards ensuring appropriate management of the activities contracted to subcontractors in order to achieve the goals of the organisation:

* failure to include all service suppliers in the supplier list;
* failure to verify all suppliers and contractors;

criterion II.4 – In the case of initiating the servicing of freight wagons, the organisation must have procedures in place in order to:

* acquire the initial documentation and accumulate sufficient information on the planned servicing;
* carry out an analysis of the initial documentation and submit the first maintenance documentation, taking into account the obligations contained in all associated guarantees;
* provide appropriate implementation of the first maintenance documentation

failure to provide the appropriate implementation of the first documentation of the maintenance system of a freight wagon;

criterion II.5 – To keep the maintenance file updated throughout the lifecycle of a freight wagon, the organisation must have procedures to:

* collect at least the relevant information in relation to:

the type and extent of operations effectively performed, including, but not limited to, operational incidents with a potential to affect the safety integrity of the freight wagon;

the type and extent of operations planned;

the maintenance effectively performed;

* define the need for updates, taking into account the limit values for interoperability;
* make proposals for and approve changes and their implementation, with a view to a decision based on clear criteria, taking into account the findings from risk assessment;
* ensure that the implementation of changes is done correctly:

management of maintenance management documentation non-compliant with the requirements;

criterion III.3 – The organisation must have a procedure to send freight wagons for maintenance in due time:

* lack of ongoing monitoring of the timely withdrawal from traffic and providing substitute rail vehicles for the purpose of performing maintenance-repair works;
* failure to implement a procedure for the maintenance management of the rolling stock;
* failure to document all runs of freight wagons;

criterion III.5 – The organisation must have a procedure to define the necessary audit measures applied to the maintenance delivered and the release to service of the freight wagons:

* lack of compliance of the maintenance process with the requirements designated in maintenance system documentation;

criterion III.6 – The organisation must have a procedure to issue a notice to return to operation, taking into account the release to service documentation:

* failure to include in the procedure of the 'return to service' form;
* lack of systemic approach to the issuance of notices of return of wagons to service;
* failure to issue a notice of return to service;

criterion III.10 – When the information process is applied to the rolling stock maintenance management function, at least the following elements need to be provided to the maintenance delivery function:

* orders relevant to maintenance;
* return to service, including the limitation of use which is crucial from the point of view of railway undertakings and infrastructure managers:

lack of registration of return to service documents;

failure to issue wagon maintenance orders;

criterion IV.2 – The organisation must have procedures for the purpose of ensuring that:

* elements (including spare parts) and materials are used in a manner described in orders relevant to maintenance and in the documentation of the supplier: OJ L 122/36 Official Journal of the European Union 11 May 2011;
* elements and materials were stored, handled and transported in a manner preventing them from wear and damage, described in the order relevant to maintenance and in the documentation of the supplier;
* all elements and materials, including those delivered by the client, were compliant with relevant national and international regulations, as well as the requirements of appropriate orders concerning maintenance;
* storing elements and materials in places without designation and storing new parts with partially worn parts;

criterion IV.5 – The organisation must have procedures to ensure that all facilities, equipment and tools are correctly used, calibrated, preserved and maintained in accordance with documented procedures:

* lack of supervision of the calibration/legalisation process of measuring devices;
* improper supervision of record keeping and marking of measuring devices;

criterion IV.6 – The organisation must have procedures to check that the maintenance tasks performed are in accordance with the maintenance orders and to issue the notice to release to service that includes eventual restrictions of use.

* keeping of the diagnostic-measurement documentation without compliance with the requirements of maintenance management documentation;
* issuing release to service before the performance of all activities required for a specific review.

In 2016, the President of the RTO issued one administrative decision cancelling the infringement proceedings concerning the functioning of the MMS system.

## Human resources

Estimated data characterising the supervision process in 2016 within the context of human resources is as follows:

* total duration of inspections and audits carried out was 107 968 hours;
* the duration of inspections and audits carried out per one employee was 1 565 hours;
* the percentage of time spent by employees on conducting inspections and audits was 81.5%.

It should be highlighted that this value includes only actual time spent on supervisory activities, while the other part is made up of activities relating to analysis and development of post-audit documentation.

## Competences

Development of competency is listed as one of the primary tools ensuring the proper management of human resources in an undertaking. Employers seek effective methods of use of knowledge skills and competency of the staff not only in the current activity but also for the implementation of long-term goals. Because of that, the UTK Academy was established in the Rail Transport Office, where training courses are organised for the purpose of enhancing qualifications of each staff member, especially those who perform field operations.

Education conducted within external training allows for quick transfer of specialised knowledge within UTK into rail market. Such activities are often preventive in nature, which allows to prepare the market for the introduction of new regulations and amendments to the provisions. Regular contact with representatives of the rail market allows a greater understanding of problems encountered by participants of the market and, therefore, quicker response to emerging problems.

It should be highlighted that apart from the aforementioned solutions, regular employee development is achieved through the implementation of control measures in interdisciplinary teams. The members of the audit team are chosen taking into account the character of the audit performed and the specialisation of inspectors. This guarantees efficient and reliable performance of a goal, while the highest standards of audit inspectors directly contribute to improving rail traffic safety.

## Decision-making process

Supervisory activities taken by the President of the RTO have a complex character. They can take the form of audit proceedings, administrative proceedings and investigative proceedings. The audit proceedings are carried out in accordance with the rules described in the Regulation of the Minister of Transport of 12 March 2007 on the procedure for conducting inspections by the President of the Rail Transport Office (Journal of Laws of 2007, No 57, item 388). In accordance with Section 14(1) of that act, the results of the audit must be presented by the auditor in an audit protocol. Such protocol contains, among others, the actual state determined during the audit, including the description of irregularities identified. As defined in Section 16(2) of the aforementioned regulation, audit activities must be supplemented with post-audit guidelines, which contain the assessment of the audited activity, which results from the memoranda contained in the audit protocol. In the case of identification of irregularities, the regulations which were violated must be stated in the post-audit guidelines, with notes and conclusions concerning their removal within the specified time. The main recommendations issued using this method include:

* removal of irregularities identified during the control and determining the date of their removal;
* performance of an analysis of the irregularities identified in similar documents, rail vehicles and removal of those irregularities;
* taking appropriate actions in accordance with the implemented Safety Management System, for the purpose of supervision of the risk level, associated with performing activities;
* informing the President of the Rail Transport Office of the notes and conclusions and presentation of appropriate evidence documenting the activities performed / irregularities removed within the specified period.

The issuance of recommendations and the process of verifying their performance makes it possible to carry out a comprehensive analysis concerning the removal of any irregularities identified and execution by the entity of corrective and preventive measures in appropriate areas.

It should be noted that in the case of identifying a lack of compliance of the activity performed by the entity with the provisions of the law, apart from formulating conclusions and recommendations listed in the post-audit guidelines, appropriate administrative proceedings are implemented as well. Also, the control proceedings are separate from administrative proceedings and obligations carried out via audit proceedings, as opposed to obligations issued via administrative proceedings, do not grant powers or impose responsibilities of an entity. Because of such nature of the relation between audit and administrative proceedings, the President of the RTO has been empowered to issue administrative decisions for the purpose of improvement of the safety of rail traffic management.

Administrative proceedings are initiated, as a rule, when the actual state identified during the audit proceedings reveals a violation by the audited entity of responsibilities imposed by regulations within the area of rail traffic safety, in particular the compliance with technical and organisational conditions providing safe management of rail traffic and safe servicing of rail vehicles.

In accordance with Article 13b(1) of the Act on rail transport, in the case of identifying violations of regulations, decisions or obligations within the area of the rail industry, the President of the RTO must issue a decision determining the scope of violation and the date of removal of the irregularity.

Proceedings before the President of the RTO must be subject to the provisions of the Administrative Procedure Code. During the proceedings, the entities may participate with each stage of the proceedings, as well as comment on the evidence and materials collected and on the claims put forward. The President of the RTO may depart from the aforementioned principle in the case of a safety hazard to human health or lives. Furthermore, after the issuance of the decision they may submit a request to the President of the RTO for reconsideration of the case (in the case of imposition of a fine resulting from the Act on rail transport, to submit an appeal before a court) and this right was used by entities. Conclusions were motivated by, in particular:

* change of actual state – removal of irregularities;
* designation of excessively short time limits to remove irregularities;
* validity of the financial penalty.

Decisions of the President of the RTO are also subject to judicial review on the basic rules.

Furthermore, within the activity performed, numerous projects promoting and developing the rail transport safety culture are implemented, which often exceed the framework of the legislative body and constitute an original project. The initiated activities concentrate on increasing the level of safety within the entire rail system, as well as raising awareness of various entity groups.

## Coordination and cooperation

The President of the RTO, by implementing the tasks under the provisions of national and international law, engages in international cooperation with the institutions of the European Union, partnering offices from the member states, appropriate railway institutions and entities representing third countries.

Areas within which the President of the RTO engages in international cooperation are correlated to three key functions, which the Rail Transport Office fulfils on the national market, namely the function of the National Safety Authority (NSA), the function of the National Regulatory Body (RB) and the function of National Enforcement Body Regarding Passenger Rights (NEB).

Cooperation and coordination of supervisory activities carried out by NSA is required by, among others: Annex IV to the Commission Regulation (EU) No 1158/2010 and Annex III to Commission Regulation (EU) No 1169/2010 – which establish the main cooperation conditions of both NSAs and together they establish a common safety assessment method in relation to the compliance with the requirements concerning the acquisition of rail safety certificates and acquisition of rail safety authorisations, as well as the Commission Regulation (EU) No 1077/2012 on the assessment of the common safety method (CSM), which describes the scope of the cooperation in more detail. Article 8 of the aforementioned Regulation commits NSA to coordinate the rules of its approach to the issue of supervision for the purpose of ensuring that the safety management system of a railway undertaking (RU) operates effectively and assessing what information is subject to exchange between the parties engaged in NSA supervision. Such coordination also involves the exchange of information on the strategy and plan or plans of supervision between the interested NSAs, including certain results of the conducted activities to ensure a common approach to the manner of operation in the event of non-compliance.

Currently, the President of the Rail Transport Office cooperates within the aforementioned scope with the National Safety Authorities (NSA) of Lithuania and Hungary. Both the agreement of 21 July 2015 concluded in Vilnius (PL-LT), as well as the agreement of 5 December 2016 concluded in Budapest (PL-HU) are based on the model of Common Approach to Supervision (CAS). These agreements, concluded on the basis of this model, regulate the following matters:

* rules of common supervision;
* common areas of supervision and/or nominal problems;
* the manner of overcoming differences between NSAs resulting from the differences in legislation and approach to the criticality of incompatibilities identified;
* timetable of activities performed within the cooperation;
* the scope of the annual report;
* the scope of local activities;
* (re)certification of safety management systems (SMS) and maintenance management systems (MMS) – NSA issuing the certificate of the part A of the certificate during the reassessment of the SMS and MMS systems takes into account the results of supervisory activities in another Member State.

Agreements between national safety bodies of Poland and Lithuania and between Poland and Hungary establish mainly the exchange of information and experiences concerning the entities of rail market holding the part B certificate in appropriate countries, inter alia within the scope of supervision strategy and plans, type and number of irregularities identified, level of safety of each railway undertaking or the results of supervisory activities. The bodies also cooperate within the scope of the supervisory activities towards the entities in charge of maintenance (ECM).

Within the framework of the agreement, both countries exchange information concerning significant irregularities, which may affect safety and significant changes introduced into safety management systems of railway undertakings which require changing part A safety certificates. Exchange of information between authorities is handled in three modes:

* after establishing the agreement, involving the First report on railway undertakings (RU) and entities in charge of maintenance (ECM);
* annually, involving the Annual report on the level of safety of railway undertakings and entities in charge of maintenance;
* immediately in the case of the occurrence of:

a significant irregularity, which may affect the level of safety;

significant change in safety management systems of rail entities which require changing of the safety certificate;

significant change in safety management systems of ECMs which require changing of ECM certificate;

change of the safety certificate or ECM certificate;

initiating proceedings for withdrawal if a safety certificate or ECM certificate;

cancellation of safety certificates or ECM certificates;

The aim of the agreement is mutual support between the two countries to increase the level of rail traffic safety.

On 3 June 2016, an agreement was concluded by and between the Rail Transport Office and the President of the National Commission for the Investigation of Rail Accidents. The agreement must enable cooperation between the parties for the purpose of developing and maintaining a high level of safety in rail transport. It is implemented, through carrying out activities based on common rules as well as exchange of information and good practices concerning supervision of the proceedings carried out by rail commissions.

Based on the provisions of the agreement, the Rail Transport Office and the National Commission for the Investigation of Rail Accidents acquired mutual access to databases concerning rail occurrences, exchange information on supervision tools, their effectiveness, as well as experiences in supervising proceedings carried out by rail commissions. Furthermore, on the basis of the agreement the parties provide mutual access to information on organised training courses.

## Conclusions drawn from the initiated supervisory activities

In accordance with Section 16(2) of the Regulation of the Minister of Transport of 12 March 2007 on the procedure for conducting inspections by the President of the Rail Transport Office (Journal of Laws of 2007, No 57, item 388), the conclusions resulting from control activities are entered into the post-audit documentation, i.e. post-audit guidelines. The aforementioned document contains, among others, the assessment of the activity of the audited entity, which was made on the basis of the findings reached during the appropriate actions. In the case of identification of irregularities, the regulations which were not violated must be marked. In relation to the identification of irregularities within the activity of the audited entity, the President of the RTO must also provide, within the post-audit guidelines, notes and conclusions concerning the removal of the irregularities in the designated time. This is the basis for enforcement of undertaking by the entity of appropriate corrective and preventive measures, which will allow the elimination of a diagnosed problem and similar situations in the future. From among the issued guidelines, the President of the RTO highlights not only the responsibility to remove irregularities already identified, but also to perform an analysis of other areas of activity performed, to detect and remove similar irregularities and undertake appropriate activities in accordance with the implemented Safety Management System, for the purpose of supervision of the risk level, associated with performing activities. Moreover, the audited entity must provide appropriate evidence/documents, which must confirm the execution of corrective measures, elimination of the hazard and implementation of solutions minimising it. It is a tool which allows the President of the RTO to monitor the safety level of the rail market as well as the functioning of entities in the context of implementation of activities which enable its constant improvement. In order to acquire a general view of the rail sector and to summarise the results of supervisory activities, an analysis of the gathered information was carried out. On that basis, the material summarising the activities performed so far was prepared, under which the rail transport safety state was assessed and trends and changes within the area were identified.

During the summary of the conclusions within this analysis it is worth noting the significant increase of the number of supervisory activities carried out by the President of the RTO, with a concurrent decrease of the number of irregularities identified during their implementation. In the majority of the analysed detailed scopes of operation, a decrease of the irregularity rate in comparison with 2015 was observed, which is especially visible in the areas among the supervision priorities of the President of the RTO, namely the supervision of the technical condition and servicing of rail infrastructure, supervision of technical condition and the maintenance process of rail infrastructure and the adjacent properties, supervision of the technical condition and servicing of rail vehicles and implementation of the shipping process, supervision of the entities operating in compliance with the Maintenance Management System of Safety Management System.

The results of the analyses carried out indicate an increase in the concern of entities on the rail market for safety, i.e. performing activities for the purpose of reducing the number of existing violations to ensure proper operation of undertakings and therefore the entire rail system. It is also the result of regular supervisory activities performed by the President of the RTO and focusing attention on matters associated with prevention, including the safety culture in rail transport.

On the other hand, the highest increase of the irregularity rate in 2016 in comparison to 2015 was observed in the area of supervision of training and examining facilities. This state of affairs justifies the implemented by the President of the RTO of intensified supervision within the aforementioned scope and introduction of additional activities, which will allow for the improvement of safety in that field.

In the context of the measures taken by the rail market entities to remove irregularities, it needs to be noted that in the case of identification, during the supervisory activities, of irregularities in the operation of an entity, apart from the formulation of conclusions and recommendations, the President of the RTO also implements administrative proceedings, during which he issues administrative decisions.

Additionally, it needs to be noted that in some cases the undertaking itself, as a result of the findings made in the protocol of the audit, as well as on the basis of the conclusions of post-audit guidelines, carries out activities for the purpose of removal of irregularities identified, and, finally, removes those irregularities, which results in rendering redundant the proceedings for the purpose of issuance of the decision, mentioned in Article 14 of the Act on rail transport.

It also needs to be highlighted that the initiation of the proceedings for the purpose of identifying a violation of railway regulations, affects entities, which, during the stage of the ongoing administrative proceedings, carry out activities for the purpose of removal of irregularities identified , which constituted the basis of the initiation of the proceedings.

Furthermore, the visible involvement of the entities in the implementation and development of Safety Management Systems and, importantly, the development of safety culture, i.e. introduction of new proactive solutions enabling constant development. However, despite noticeable signals indicating the growth of awareness and engagement in the development of rail transport safety situations, where the participants of the rail market failed to fulfil the basic responsibilities and objectives resulting from the implemented Safety Management Systems and permitted gross violations in the area, need to be brought up.

A correctly functioning Safety Management System (SMS) is the primary condition for acquisition by the infrastructure manager/railway undertaking of authorisation/safety certificate, respectively. SMS procedures encompass all processes which influence safety, therefore, the control of the entire system or its selected procedures allows comprehensive supervision of the compliance of the entity of rail safety requirements, including requirements which are not checked during dedicated thematic audits.

# Safety certification and authorisation

## Guidelines

The guidelines of the President of the RTO in the scope of obtaining safety certification and authorisation are available on RTO website. The website also contains basic information on the mode of obtaining these documents. The individual sections include basic information on the safety management system, an application template together with instructions on how to complete it, and information on fees.

As part of the activities, for the purpose of increasing transparency of information provided to rail market entities, the registry of safety certificates parts A and B and safety authorisation have been provided on the RTO website since 2013. All parties concerned may acquire information concerning their contents and scope.

## Contacts with other national safety authorities

In 2016, as in the preceding years, the RTO's contacts with other national safety authorities as part of the safety certification process were limited. The RTO did not receive any applications from other safety authorities requesting information regarding the Part A safety certificate issued for a railway undertaking in Poland.

In 2016, the part B safety certificate in Poland was received by a Czech carrier LokoTrain s.r.o. Among Polish undertakings, HSL Polska Sp. z o.o. received such a certificate issued by the Belgian safety authority.

## Procedural matters

The year of 2015 was the year of renewal of numerous safety authorisations and certificates, issued in Poland in 2010. Because of that in 2016 the number of applications and; therefore, the number of issued authorisations and certificates decreased. In total, 63 safety certificates and authorisations were issued, including 27 part A certificates, 32 part B certificates and 4 safety authorisations.

Among the 59 certificates issued in 2016, 25 were issued to new railway undertakings (12 part A and 13 part B), 15 certificates were issued after examination of the applications for amendment (8 part A and 7 part B), while 19 were issued as a result of renewal of the previous certificates (7 part A and 12 part B).

Within the scope of authorisation, 2 applications for amendment were received and 2 applications from 2015 concerning renewal were recognized by the President of the RTO in 2016.

In 2016, the President of the RTO carried out 131 audits within the scope of supervision of entities operating in compliance with the safety management system. During these activities, 996 irregularities were identified. The violations were identified in around 85% of the activities performed within the area, which means that at least one irregularity was identified during 112 audits. The irregularity rate for 2016 was 7.6. In comparison with 2015, a decrease of 1.34 can be noticed, which indicates a decrease in the average number of irregularities identified during each audit. This, in turn, indicates an improvement within the area of functioning of safety management systems in audited entities and directly affects the increase of the rail traffic safety level.

As a result of the audits carried out in 2016, the President of the RTO carried out 6 proceedings for the full withdrawal of safety certificates, including 4 cases, where, due to the removal of irregularities by the entities, the administrative proceedings were cancelled, while in 2 cases, decisions for full withdrawal of safety certificates were issued.

The cause of the decision of withdrawal of a certificate in the aforementioned cases were irregularities in the scope of implementation of the safety management system revealed during an audit.

In one of the cases, the President of the RTO discovered irregularities concerning the implementation of the safety management system in the form of a failure to achieve the compliance assessment criteria with the requirements involving the acquisition of a safety certificate – issued in accordance with Article 10(2)(a) of the Directive 2004/49/EC of the European Parliament and the Council or 29 April 2004 on safety on the Community’s railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (Directive on rail safety) (OJ L 164/44 of 30 April 2004 as amended), i.e. associated with the implementation of procedures:

* operational risk assessment;
* personnel competency management;
* internal auditing;
* supplier competency verification;
* consistency and up-to-date character of the records of the safety management system documentation.

No appropriate measures – whether during the stage of audit proceedings or administrative proceedings – for the purpose of removing detected irregularities were implemented.

In the second case, the irregularities identified were related to practically every criterion of a properly functioning system, i.e. relating to, among others, operational risk assessment procedures, management of rail vehicles, service supplier assessment, internal audits and auditing, improvement of the safety management system and qualifications of the staff.

In these cases, the President of the RTO stated that the carriers failed to implement the safety management systems and failed to apply it in practice.

## Feedback

There is no mechanism under which railway undertakings or infrastructure managers could express their opinions on procedures for the issue, extension or amendment of Part A and B safety certificates and safety authorisations or lodge complaints about the activity of the President of the RTO. The solutions in this respect arise directly from the provisions of applicable national legislation.

In accordance with the Administrative Procedure Code applicable within the area of complaint submission to public administration authorities (Journal of Laws of 2017, item 1257), the object of such a complaint may be, in particular, negligence or improper performance of tasks by relevant bodies or their employees, a violation of the rule of law or the interests of the claimants, as well as lengthy or bureaucratic processing of cases. The motion may be related to, in particular, improving organisation, strengthening the rule of law, improving work and preventing abuse, protection of property, or better meeting the people’s needs.

In 2016, as in the previous year, the President of the RTO did not; however, receive any complaints or requests referred to above that related to administrative proceedings regarding the issue, amendment or extension of a Part A or B safety certificate or safety authorization.

# Amendments to legislation

## Directive on rail safety

The Rail Safety Directive was implemented into national legislation pursuant to the Act of 22 July 2006 on amendments to the Rail Transport Act and accompanying implementing regulations. The following are national regulations in force in 2016 that transpose the Railway Safety Directive:

* Rail Transport Act of 28 March 2003 (Journal of Laws of 2016, item 1727, as amended);
* Regulation of the Minister of Infrastructure and Construction of 25 February 2016 on the interoperability of the rail system (Journal of Laws of 2016, item 254).
* Regulation of the Minister of Infrastructure and Construction of 4 January 2016 on the national register of railway infrastructure (Journal of Laws of 2016, item 63);
* Regulation of the Minister of Infrastructure and Construction of 23 June 2016 on the national register of rail vehicles (Journal of Laws of 2016, item 988);
* Act of 13 April 2016 on conformity assessment and market surveillance systems (Journal of Laws of 2016, item 542),
* Regulation of the Minister of Transport of 5 December 2006 on the method for obtaining safety certificates (Journal of Laws of 2006, No 230, item 1682, as amended);
* Regulation of the Minister of Transport of 19 February 2007 on the contents of the report on the procedure in case of a serious accident, accident and rail incident (Journal of Laws of 2007, No 41, item 268, as amended);
* Regulation of the Minister of Infrastructure and Development of 13 May 2014 on the commissioning of specific types of rail buildings, devices and vehicles (Journal of Laws of 2014, item 720);
* Regulation of the Minister of Transport of 12 March 2007 on the procedure for conducting inspections by the President of the Rail Transport Office (Journal of Laws of 2007, No 57, item 388, as amended);
* Regulation of the Minister of Transport of 19 March 2007 on the rail transport safety management system (Journal of Laws of 2016, item 328);
* Regulation of the Minister of Infrastructure and Construction of 16 March 2016 on serious accidents, accidents and incidents in rail transport (Journal of Laws of 2016, item 369);
* Regulation of the Minister of Infrastructure and Development of 21 July 2015 on common safety indicators (CSIs) (Journal of Laws of 2015, item 1061).

Detailed information on the status of the transposition of this directive is available in Table 1 in Annex 2 hereto.

Crucial regulation changes introduced in national law within the area of issuance of safety licences, approval of internal regulations, rail incidents, and safety of rail products are described in the following chapter of this report.

## Amendments to legislation and regulations

In 2016, the most extensive legislative works associated with transposition of European Union law into the Polish law in terms of the area of safety involved the changes associated with the implementation of the amendment to Directive 2008/57/EC.

With the entry into force on 30 December 2016 of the Act of 16 November 2016 on the amendment of the rail transport act and certain other acts (Journal of Laws, item 1923), the conditions for the issuance of safety certificates were changed.

Under the act amending the Act on rail transport, the restriction relating only to the passenger transport indicated in Article 18(2)(1) was removed. In accordance with the current wording of Article 17d(2), the safety certificate is issued for the manager and the railway undertaking operating transport exclusively on the railway lines listed below:

* narrow-gauge rail;
* functionally separated from the rest of the rail system;
* dedicated to the provincial or local transport, or
* listed within the register of historical objects or inventory of museum objects;
* serviced exclusively for the purpose of operation of recreational and special event transport;
* designated as private infrastructure;
* designated as railway sidings.

Furthermore, in accordance with Article 17e(6) of the Act on rail transport, the undertaking, which combines the function of a manager and undertaking, under conditions designated in the Act, may acquire one common safety certificate instead of two separate documents.

The Act of 16 November 2016 amending the Act on rail traffic also introduced the following responsibilities for the manager of the infrastructure not required to acquire safety certification and authorisation:

* until 9 December 2017 establishment of a statute of the managed railway network, which designates the railway networks, railway sidings and other railway lines managed by them, and indicates which of them are idle or private infrastructure;
* until 9 December 2017 reporting the service infrastructure facilities to the RTO;
* until 9 December 2017 drawing up the laws and regulations for service infrastructure facilities;
* since 9 December 2017 the responsibility of sharing service infrastructure facilities.

Because of the amendments of regulations, since 1 March 2016 the President of the RTO no longer approves the internal regulations of the users of railway sidings, infrastructure managers, carriers and undertakings operating transport of the metro. Due to the above, since 1 March 2016, in accordance with Article 2(3) of the Act of 25 September 2015 on the amendment of the rail transport act, the President of the RTO must leave without consideration the internal regulations submitted for approval. This means that the indicated entities must develop their own documents containing internal regulations, taking full responsibility for the information contained therein.

As a consequence of amendments of the regulations, since 1 March 2016 it has been mandatory for the users of railway sidings of major accident to report accidents and incidents to the President of the SCIRA and to the President of the RTO. Since 19 September 2016, all users of railway sidings must have up-to-date internal regulations concerning the procedure in case of major accidents, accidents and incidents. The regulations concerning these rail occurrences must be included at least in the regulations of the railway sidings operation, established in cooperation with the manager of the rail infrastructure, to which the lines of the siding connect. However, it is possible to also establish instructions concerning the area.

A summary table of changes in regulations concerning rail safety are contained in Annex 2 hereto.

# Application of CSMs with respect to risk assessment and evaluation

## Experiences of national safety authorities

In 2016, the President of the RTO continued the analysis of the way in which carriers, infrastructure managers, infrastructure and rolling stock modernization contractors and entities responsible for maintenance (ECMs) carried out the assessment of the change significance and risk management resulting from Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009 ('Regulation No 402/2013').

The analysis of the method of implementation of the obligations of Regulation No 402/2013 by the entities was carried out in accordance to the supervision process and administrative proceedings, where it was necessary to present documentation on the assessment of the significance of the change (e.g. the approval by the President of the RTO of changes relevant for the maintenance system documentation, introduction of amendments in the safety certificates in relation to the serviced railway lines, proceedings on commissioning of structural subsystems and railway lines, etc.).

In spite of providing to the entities by the President of the RTO of the manual on the practical implementation of the requirements of the common safety method in the scope of risk evaluation and assessment (CSM RA) in 2015, the low quality of provided documentation on the significance of the change is still a major problem.

The implementation by the entities of the previous stage of the process, i.e. the evaluation if the change affects safety is also problematic. Within the available documentation examples were identified, where that stage was omitted or the influence of the change on safety was incorrectly assessed. The change was repeatedly described as not affecting safety and irrelevant, which seems to indicate incomplete understanding of the provisions of Regulation No 402/2013.

In the case of entities operating in compliance with the safety management system, the implementation of the provisions of Regulation No 402/2013 involves the fulfilment of the requirements described in Annex II of the Commission Regulation (EU) No 1158/2010 of 9 December 2010 on a common safety method for assessing conformity with the requirements for obtaining railway safety certificates, as well as Commission Regulation (EU) No 1169/2010 of 10 December 2010 on a common safety method for assessing conformity with the requirements for obtaining a railway safety authorisation.

In the process of supervision, the main concerns in relation to the implementation of that criterion by the entities resulted from the lack of assessment of introduced changes and introduction of changes without ensuring compliance with the mode designated in the procedures of the safety management system adopted by the entity.

Similarly to 2015, it needs to be highlighted, on the basis of, for example, the information provided by the entities in safety reports of 2016, that market entities, in performing the assessment of the significance of the change, display hesitance in classifying changes in rail system as significant changes. It may be a result of incomplete understanding by the entities of the aim of the assessment of changes in rail system in compliance with Regulation No 402/2013. It should be highlighted that the appropriate and reliable performance of the change management process enables the managers of a given enterprise to ensure that the changes introduced are managed properly and related risks can be controlled efficiently.

## Feedback from entities

Feedback on the experiences of entities with respect to the use of CSMs on risk assessment is provided by railway undertakings and infrastructure managers in annual safety reports submitted to the President of the RTO by 30 June every year.

As regards the application of Regulation No 402/2013, the President of the RTO proposed in his guidelines the submission of the following information:

* a short description of the most important changes classified by the entity as having no impact on safety;
* a description of the main changes deemed insignificant;
* a description of the main changes deemed significant, including information on the conducted risk management process regarding the participation of subcontractors in the process, etc.;
* a description of audits, carried out by the entities, of the effectiveness of the risk management process.

In this context, it should be noted that the entities complied with the abovementioned guidelines and forwarded the required information that constituted one of the bases for developing the applications referred to in item 1 of this chapter. The information forwarded shows that the most frequently analysed changes were related to the modification of safety management system documentation, for example as a result of changes to:

* legislation,
* internal instructions,
* organisational changes in an enterprise.

In the reporting year, the entities introduced few significant changes. Among them were:

* commissioning a new vehicle type;
* changes in the organisation of the functioning of technical review posts;
* changes to the Maintenance System Documents of a railway vehicle,
* changes in the pneumatic system of the locomotive;
* changes in the manner of operation of locomotives (replacing a two-person crew with a single person);
* designing and installing ERTMS/ETCS level II/GSM-R;
* carrying out regular transport on new routes,

Depending on how a rail entity interprets legislation, the same changes may be classified into different categories. The greatest discrepancy refers to the assessment of the impact of a change relating to commissioning a new type of rolling stock and changes in DSU. The differences arise from the understanding of the term 'new type' of rolling stock, i.e. whether this means newly manufactured rolling stock, or rolling stock that is newly introduced into the inventory of an enterprise and, therefore, the classification of the related change. Furthermore, the extending of inspection-repair periods is not unambiguously understood by all railway undertakings. It should be highlighted that the entities, assessing the change in this area, often regarding it as a minor change, justify it in relation to the rail system as a whole, while ignoring the provisions of their own safety management system.

In 2016, railway undertakings introduced a total of 609 changes, 23 of which were regarded as significant, 366 as changes affecting safety and 220 as changes not affecting safety. The detailed percentage of each type of change is presented by figure 12.

Figure 12. Percentage of each introduced type of change in relation to all introduced changes

|  |  |  |
| --- | --- | --- |
| changes not affecting safety 36% |  | significant changes  4% |
| changes affecting safety  60% |

Below the median, and therefore less than 3 changes were introduced by 44 carriers, 9 carriers introduced 3 changes and 40 carriers introduced more than 3 changes.

Other important information forwarded in the reports includes the fact that, in most cases, railway undertakings did not involve any external entities in their risk management processes. This is different for infrastructure managers whose specific role in the rail system requires cooperation with external entities, primarily railway undertakings or rail project contractors, with respect to risk assessment.

# Deviations from the ECM certification system

In 2016, the existing provisions in Poland concerning the deviations relating to the responsibilities associated with the designation of the entity responsible for maintenance and its certification did not change.

Article 14a(8) of the Railway Safety Directive provides that Member States may, in specific cases, make a different decision on the method of implementing responsibilities relating to the specification of an entity responsible for maintenance, and its certification, other than provided for in applicable European legislation. Deviations of this type should be implemented together with registration of rail vehicles and during the process of the issuance of safety certificates and authorisations.

In Poland, the aforesaid matter is governed by regulations at national level, i.e. in Article 23j(7) of the Rail Transport Act. Pursuant to the provisions of this article, the tasks of the entity in charge of railway vehicle maintenance (ECM) for railway vehicles that:

* are registered in a country that is not a Member State of the European Union and maintained in accordance with the regulations applicable in that country,
* are used on railway lines with a track width different from the track width of the main railway network in the Republic of Poland, and for which compliance with the conditions specified in item 2 is ensured by international agreements with countries that are not Member States of the European Union,
* are entered into the register of historical objects or inventory of museum objects and military railway vehicles and special railway vehicles, the transport of which requires a permit from the President of the Rail Transport Office,

are implemented by the railway undertaking moving these vehicles within the territory of the Republic of Poland.

Given the above, the President of the RTO does not issue exceptions in this regard, because such exceptions apply to the aforesaid categories of vehicles pursuant to the same act, and do not require any additional permits.

Annex 1: Common safety indicators

Table 1. Common safety indicators (CSIs)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Description of data | | | Format of data | Value |
| 1.1. Total number of significant accidents and breakdown by type of accidents | | | | | |
| N00 | | | Total number of significant accidents, including: | Numerical value | 265 |
| N011 | | | Number of collisions of train with rail vehicle | Numerical value | 2 |
| N012 | | | Number of collisions of train with obstacle within the clearance gauge | Numerical value | 3 |
| N02 | | | Number of train derailments | Numerical value | 16 |
| N03 | | | Total number of significant road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 76 |
| N031 | | | Number of significant accidents at passive road level crossings and pedestrian crossings (category D and E) | Numerical value | 44 |
| N032 | | | Number of significant accidents at manually operated road level crossings – category A and F | Numerical value | 10 |
| N033 | | | Number of significant accidents at road level crossings and pedestrian crossings with automatic user-side warning systems (e.g. lights) – category C and E | Numerical value | 10 |
| N034 | | | Number of significant accidents at road level crossings and pedestrian crossings with automatic user-side protection systems (e.g. boom barriers) – category A, B and E | Numerical value | 12 |
| N035 | | | Number of significant accidents at road level crossings where the railway part is protected (e.g. boom barriers over the railway track) | Numerical value | 0 |
| N04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides and attempted suicides | Numerical value | 168 |
| N05 | | | Number of fires in rolling stock | Numerical value | 0 |
| N06 | | | Number of other accidents | Numerical value | 0 |
| 1.2.1a. Total number of serious injuries, by type of accident, divided into the following categories | | | | | |
| TS00 | | | Total number in all significant accidents | Numerical value | 92 |
| TS01 | | | In collisions of trains, including collisions with obstacles within the clearance gauge | Numerical value | 2 |
| TS011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| TS012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 2 |
| TS02 | | | In train derailments | Numerical value | 0 |
| TS03 | | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 39 |
| TS04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | Numerical value | 51 |
| TS05 | | | In fires in rolling stock | Numerical value | 0 |
| TS06 | | | In other significant accidents | Numerical value | 0 |
| 1.2.1b. Total number of passengers seriously injured, by type of accident | | | | | |
| PS00 | | | Total number in all significant accidents | Numerical value | 5 |
| PS011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| PS012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 1 |
| PS02 | | | In train derailments | Numerical value | 0 |
| PS03 | | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 0 |
| PS04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | Numerical value | 4 |
| PS05 | | | In fires in rolling stock | Numerical value | 0 |
| PS06 | | | In other significant accidents | Numerical value | 0 |
| 1.2.1c. Total number of employees seriously injured, including the staff of contractors, by  type of accident | | | | | |
| SS00 | | | Total number in all significant accidents | Numerical value | 2 |
| SS011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| SS012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 1 |
| SS02 | | | In train derailments | Numerical value | 0 |
| SS03 | | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 0 |
| SS04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | Numerical value | 1 |
| SS05 | | | In fires in rolling stock | Numerical value | 0 |
| SS06 | | | In other significant accidents | Numerical value | 0 |
| 1.2.1d. Total number of level crossing users seriously injured, by type of  accident | | | | | |
| LS00 | | | Total number in all significant accidents | Numerical value | 39 |
| LS011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| LS012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 0 |
| LS02 | | | In train derailments | Numerical value | 0 |
| LS03 | | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 39 |
| LS04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | Numerical value | 0 |
| LS05 | | | In fires in rolling stock | Numerical value | 0 |
| LS06 | | | In other significant accidents | Numerical value | 0 |
| 1.2.1e. Total number of unauthorised persons on railway premises seriously injured, by type of accident | | | | | |
| US00 | | | Total number in all significant accidents | Numerical value | 46 |
| US011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| US012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 0 |
| US02 | | | In train derailments | Numerical value | 0 |
| US03 | | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 0 |
| US04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | Numerical value | 46 |
| US05 | | | In fires in rolling stock | Numerical value | 0 |
| US06 | | | In other significant accidents | Numerical value | 0 |
| 1.2.1f. Total number of other persons seriously injured, by type of accident | | | | | |
| OS00 | | | Total number in all significant accidents | Numerical value | 0 |
| OS01 | | | In collisions of trains, including collisions with obstacles within the clearance gauge | Numerical value | 0 |
| OS011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| OS012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 0 |
| OS02 | | | In train derailments | Numerical value | 0 |
| OS03 | | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | Numerical value | 0 |
| OS04 | | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | Numerical value | 0 |
| OS05 | | | In fires in rolling stock | Numerical value | 0 |
| OS06 | | | In other significant accidents | Numerical value | 0 |
| 1.2.1g. Other persons at a platform seriously injured | | | | | |
| OSP00 | | | Total number in all significant accidents | Numerical value | 0 |
| OSP011 | | | In collisions of train with rail vehicle | Numerical value | 0 |
| OSP012 | | | In collisions of train with obstacle within the clearance gauge | Numerical value | 0 |
| OSP02 | | | In train derailments | Numerical value | 0 |
| OSP03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| OSP04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 0 |
| OSP05 | | In fires in rolling stock | | Numerical value | 0 |
| OSP06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.1h. Other persons not at a platform seriously injured | | | | | |
| OSE00 | | Total number in all significant accidents | | Numerical value | 0 |
| OSE011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| OSE012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| OSE02 | | In train derailments | | Numerical value | 0 |
| OSE03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| OSE04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 0 |
| OSE05 | | In fires in rolling stock | | Numerical value | 0 |
| OSE06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2a. Total number of persons killed, by type of accident, divided into the following categories | | | | | |
| TK00 | | Total number in all significant accidents | | Numerical value | 167 |
| TK011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| TK012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| TK02 | | In train derailments | | Numerical value | 0 |
| TK03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 48 |
| TK04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 119 |
| TK05 | | In fires in rolling stock | | Numerical value | 0 |
| TK06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2b. Total number of passengers killed, by type of accident | | | | | |
| PK00 | | Total number in all significant accidents | | Numerical value | 1 |
| PK011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| PK012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| PK02 | | In train derailments | | Numerical value | 0 |
| PK03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| PK04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 1 |
| PK05 | | In fires in rolling stock | | Numerical value | 0 |
| PK06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2c. Total number of employees, including the staff of contractors, killed, by type of accident | | | | | |
| SK00 | | Total number in all significant accidents | | Numerical value | 1 |
| SK011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| SK012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| SK02 | | In train derailments | | Numerical value | 0 |
| SK03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| SK04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 1 |
| SK05 | | In fires in rolling stock | | Numerical value | 0 |
| SK06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2d. Total number of level crossing users killed, by type of accident | | | | | |
| LK00 | | Total number in all significant accidents | | Numerical value | 48 |
| LK011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| LK012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| LK02 | | In train derailments | | Numerical value | 0 |
| LK03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 48 |
| LK04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 0 |
| LK05 | | In fires in rolling stock | | Numerical value | 0 |
| LK06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2e. Total number of unauthorised persons on railway premises killed, by type of accident | | | | | |
| UK00 | | Total number in all significant accidents | | Numerical value | 117 |
| UK011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| UK012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| UK02 | | In train derailments | | Numerical value | 0 |
| UK03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| UK04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 117 |
| UK05 | | In fires in rolling stock | | Numerical value | 0 |
| UK06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2g. Other persons at a platform killed | | | | | |
| OKP00 | | Total number in all significant accidents | | Numerical value | 0 |
| OKP011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| OKP012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| OKP02 | | In train derailments | | Numerical value | 0 |
| OKP03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| OKP04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 0 |
| OKP05 | | In fires in rolling stock | | Numerical value | 0 |
| OKP06 | | In other significant accidents | | Numerical value | 0 |
| 1.2.2h. Other persons not at a platform killed | | | | | |
| OKE00 | | Total number in all significant accidents | | Numerical value | 0 |
| OKE011 | | In collisions of train with rail vehicle | | Numerical value | 0 |
| OKE012 | | In collisions of train with obstacle within the clearance gauge | | Numerical value | 0 |
| OKE02 | | In train derailments | | Numerical value | 0 |
| OKE03 | | In road level crossing accidents, including accidents involving pedestrians at road level crossings | | Numerical value | 0 |
| OKE04 | | Number of significant accidents to persons involving rail vehicles in motion, with the exception of suicides | | Numerical value | 0 |
| OKE05 | | In fires in rolling stock | | Numerical value | 0 |
| OKE06 | | In other significant accidents | | Numerical value | 0 |
| 2. Indicators relating to the transport of dangerous goods | | | | | |
| N18 | | Total number of accidents involving at least one rail vehicle transporting dangerous goods | | Numerical value | 6 |
| N19 | | Accidents involving at least one rail vehicle transporting dangerous goods in which dangerous goods ARE NOT released | | Numerical value | 5 |
| N20 | | Accidents involving at least one rail vehicle transporting dangerous goods in which dangerous goods ARE released | | Numerical value | 1 |
| 3. Indicators relating to suicides | | | | | |
| N07 | | Suicides | | Numerical value | 116 |
| N08 | | Attempted suicides | | Numerical value | 10 |
| 4. Indicators relating to precursors of accidents | | | | | |
| I00 | | Total number of precursors of accidents | | Numerical value | 1,818 |
| I01 | | Broken rail | | Numerical value | 1,705 |
| I02 | | Track buckle and other track misalignment of mainline tracks and station main tracks at railway stations | | Numerical value | 28 |
| I03 | | Signalling failure | | Numerical value | 0 |
| I041 | | Signal Passed at Danger when passing a danger point | | Numerical value | 73 |
| I042 | | Signal Passed at Danger without passing a danger point | | Numerical value | 2 |
| I05 | | Broken wheel on a rail vehicle in service | | Numerical value | 2 |
| I06 | | Broken axle on a rail vehicle in service | | Numerical value | 8 |
| 5. Indicators to calculate the economic impact of accidents | | | | | |
| C10 | | Economic impact of significant accidents ONLY | | Numerical value in EUR | 123 185 869.3  6 |
| C01 | | Economic impact of fatalities | | Numerical value in EUR | 104 575 400.0  0 |
| C02 | | Economic impact of serious injuries | | Numerical value in EUR | 7 855 963.64 |
| C13 | | Cost of material damages to rolling stock or infrastructure (significant accidents) | | Numerical value in EUR | 6 056 756.26 |
| C17 | | Cost of damage to the environment (significant accidents) | | Numerical value in EUR | 23 734.18 |
| C14 | | Cost of delays as a consequence of significant accidents | | Numerical value in EUR | 4 674 015.28 |
| C15 | | Minutes of delays of passenger trains (significant accidents) | | Numerical value (minutes) | 76 762 |
| C16 | | Minutes of delays of freight trains (significant accidents) | | Numerical value (minutes) | 132 287 |
| 6. Indicators relating to technical safety of infrastructure and its implementation | | | | | |
| 6.1. Train Protection Systems | | | | | |
| TP01 | | Percentage of tracks with a Train Protection System (TPS) providing warning | | Numerical value (%) (67% = 0.67) | 1.30% |
| TP02 | | Percentage of tracks with a Train Protection System (TPS) providing warning and automatic stop | | Numerical value (%) (67% = 0.67) | 0% |
| TP03 | | Percentage of tracks with a Train Protection System (TPS) providing warning and automatic stop and continuous supervision of speed | | Numerical value (%) (67% = 0.67) | 0% |
| T01 | | Percentage of tracks with an Automatic Train Protection (ATP) system | | Numerical value (%) (67% = 0.67) | 0% |
| TT01 | | Percentage of train-kilometres run with a Train Protection System (TPS) providing warning | | Numerical value (%) (67% = 0.67) | 0.99% |
| TT02 | | Percentage of train-kilometres run with a Train Protection System (TPS) providing warning and automatic stop | | Numerical value (%) (67% = 0.67) | 0% |
| TT03 | | Percentage of train-kilometres run with a Train Protection System (TPS) providing warning and automatic stop and continuous supervision of speed | | Numerical value  (%) (67% = 0.67) | 0% |
| T02 | | Percentage of train kilometres using operational ATP systems | | Numerical value (%) (67% = 0.67) | 0% |
| 6.2. Level crossings | | | | | |
| T03 | | Total number of road level crossings and pedestrian crossings (active and passive) | | Numerical value | 13 109 |
| T06 | | Total number of road level crossings and pedestrian crossings with: | | Numerical value | 5 341 |
| T07 | | automatic user-side warning systems (e.g. lights) – category C and E | | Numerical value | 1 107 |
| T081 | | automatic user-side protection systems (e.g. boom barriers) – category A, B and E | | Numerical value | 537 |
| T10 | | automatic user-side protection and warning systems and with the railway part protected (e.g. boom barriers over the railway track) | | Numerical value | 1 015 |
| T15 | | manual control (category A and F) | | Numerical value | 2 682 |
| T14 | | Total number of passive road level crossings and passive pedestrian crossings (category D and E) | | Numerical value | 7 768 |
| RT. Reference data on traffic and infrastructure | | | | | |
| R01 | | Total number of train-km | | Numerical value (in million train-km) | 234.298 |
| R02 | | Number of passenger-km | | Numerical value (in million passenger-km) | 156.050 |
| R05 | | Number of passenger train-km | | Numerical value  (in million train-km) | 73.351 |
| R06 | | Number of freight train-km | | Numerical value (in million train-km) | 4.897 |
| R04 | | Number of other train-km | | Numerical value (in million train-km) | 19 073.665 |
| R07 | | Number of freight tonne-km | | Numerical value  (million tonne-km) | 50 493.852 |
| R08 | | Number of line kilometres | | Numerical value (in km) | 19 171.837 |
| R03 | | Number of track kilometres | | Numerical value (in km) | 37 373.806 |
| 9. Reference data for economic indicators | | | | | |
| R09 | | Average percentage of business passengers per year | | Numerical value (%) | 75% |
| R10 | | Average percentage of non-business passengers per year | | Numerical value (%) | 25% |
| R11 | | National value for preventing a fatality | | Numerical value in EUR | - |
| R12 | | National value for preventing a serious injury | | Numerical value in EUR | - |
| R13 | | National value of time for a business passenger (an hour) | | Numerical value in EUR | - |
| R14 | | National value of time for a non-business passenger (an hour) | | Numerical value in EUR | - |
| R15 | | National value of time per tonne of freight (per hour) | | Numerical value in EUR | - |
| R16 | | Default value for preventing a fatality | | Numerical value in EUR | 626 200.00 |
| R17 | | Default value for preventing a serious injury | | Numerical value in EUR | 85 390.91 |
| R18 | | Default value of time for a business passenger (an hour) | | Numerical value in EUR | 23.63 |
| R19 | | Default value of time for a non-business passenger (an hour) | | Numerical value in EUR | 7.88 |
| R20 | | Default value of time for a tonne freight (per hour) | | Numerical value in EUR | 1.43 |

Table 2. Calculations of the economic impact of accidents

|  |  |  |
| --- | --- | --- |
| Parameter name | Unit | Value |
| Passenger transport | | |
| Value of time for business passengers | EUR / h | 24 |
| Average percentage of business passengers | % | 75% |
| Value of time for non-business passengers | EUR / h | 8 |
| Average percentage of non-business passengers | % | 25% |
| Value of time for all passengers VT(p) | EUR / h | 19.7 |
| Factor 1 (K1) |  | 2.5 |
| Number of passenger-km | (million pkm) | 19 073.665 |
| Number of passenger train-km | million train-km | 156.05 |
| Cost of one minute of delay of a passenger train C(mp) | EUR | 100 |
| Delays of passenger trains | minutes | 76 762 |
| Freight transport | | |
| National value of time for a tonne of goods (per hour) | EUR / h | 1.43 |
| Number of tonne-km | million tonne-km | 50 493.852 |
| Number of freight train-km | million train-km | 73.351 |
| Value of time for freight trains VT(f) | EUR / h | 986.020 |
| Factor 2 (K2) |  | 2.15 |
| Cost of one minute of delay of a freight train C(mf) | EUR | 35.33 |
| Delays of freight trains | minutes | 132 287 |

Annex 2: Amendments to legislation

Table 1. Transposition of amendments to Directive 2004/49/EC on railway safety

|  |  |  |  |
| --- | --- | --- | --- |
| AMENDMENTS TO THE DIRECTIVE ON RAILWAY SAFETY | Transposition (Y/N) | Legal reference | Date of entry into force |
| Directive 2008/57/EC | Y | 1. Act of 16 November 2016 amending the Rail Transport Act and certain other Acts (Journal of Laws of 2016, item 1923); 2. Regulation of the Minister of Infrastructure and Construction of 25 February 2016 on the interoperability of the rail system (Journal of Laws of 2016, item 254). 3. Regulation of the Minister of Infrastructure and Construction of 4 January 2016 on the national register of railway infrastructure (Journal of Laws of 2016, item 63); 4. Regulation of the Minister of Infrastructure and Construction of 23 June 2016 on the national register of rail vehicles (Journal of Laws of 2016, item 988); 5. Act of 13 April 2016 on conformity assessment and market surveillance systems (Journal of Laws of 2016, item 542). | 1. 30 December 2016 2. 1 March 2016 (repealed as of 21 April 2017) 3. 29 January 2016 4. 8 July 2016 5. 20 April 2016 |
| Directive 2008/110/EC | Y | No legal acts passed in 2016 or put into force in 2016.  Directive 2008/110/EC was transposed by the Act of 16 September 2011 on amending the Rail Transport Act (Journal of Laws of 2011, No 230, item 1372) which entered into force on 28 January 2012. | 28 January 2012 |
| Commission Directive 2009/149/EC | Y | No legal acts passed in 2016 or put into force in 2016.  Commission Directive 2009/149/EC was transposed by the Regulation of the Minister of Infrastructure and Development of 21 July 2015 on Common Safety Indicators (CSIs) (Journal of Laws of 2015, item 1061) which entered into force on 30 July 2015. | 30 July 2015 |

Table 2. Amendments to legislation and regulations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LEGISLATION AND REGULATIONS | Legal reference | Date of entry into force | Description of the amendment | Reasons for the amendment |
| Relating to the national safety authority | Act of 13 April 2016 on conformity assessment and market supervision systems (Journal of Laws of 2016, item 542). | 20 April 2016 | Terminology and conceptual framework have been adapted to EU harmonisation legislation; the Rail Transport Act has been amended by introducing a provision according to which the President of the RTO notifies authorised conformity assessment bodies and a provision enabling the President of the RTO to withdraw notification or reduce its scope in specific cases. | The need to ensure coherence between Polish regulations and the EU system set out in the New Legislative Framework (NLF). |
| Regulation of the Minister of Infrastructure and Construction on the national register of rail vehicles (NVR) (Journal of Laws of 2016, item 988) | 8 July 2017 | The new regulation modifies the standard application form for the registration of rail vehicles, specifies in more detail the list of documents to be attached to the applications filed in relation to: assignment of the European rail vehicle number (EVN), change of data in the NVR, vehicle decommissioning, and sets out rules for EVN reservation procedure. | The new regulation is largely based on the provisions of the existing regulation; however, it introduces changes resulting from the practical implementation of the current provisions. The introduction of some of the changes was proposed by railway undertakings, especially passenger carriers. |
| Act of 16 November 2016 amending the Rail Transport Act and certain other Acts (Journal of Laws of 2016, item 1923) and the individual articles listed below | 30 December 2016 | Unification of the provisions of the Rail Transport Act with obligatory EU regulations. | The amendment of the Act was mainly dictated by the need to fully implement Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 on establishing a single European railway area, Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community and Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on the safety of the Community's railways. |
| Article 25e of the Rail Transport Act | 31 August 2016 | Article 25e has been amended by adding section 1b | Introduction of a provision indicating the possibility of operating a structural subsystem by the manager before obtaining authorisation for placing it in service. Pursuant to Article 25e(1) of the Act, managers and undertakings may operate only those structural subsystems that are authorised for placing in service by the President of RTO. This provision may raise doubts regarding the operation of subsystems during the construction period and then after its completion until obtaining an authorisation issued by the President of the RTO. Current practice suggests that this period may last even several months during which a ready subsystem would wait for the notified body to finish its work and then for the completion of the administrative proceedings of the President of the RTO.  The proposed provision regulates the possibility of temporary operation of structural subsystems undergoing upgrading according to the principles from before its commencement. To ensure that this provision is not abused, a time limit of up to 9 months has been introduced for such operation, which should be sufficient to obtain a necessary authorisation. At the same time, detailed rules and conditions of temporary operation should be specified by the infrastructure manager in their safety management system. |
| Article 25j of the Rail Transport Act | 20 April 2016 | Article 25j(1): 'The President of the RTO must supervise notified certification bodies, inspection bodies and notified laboratories in the scope specified in Article 19(3)(1) and (2) of the Act of 30 August 2002 on the conformity assessment system' has been amended and reads as follows: 'The President of the RTO must supervise the activities of notified bodies. Supervision of the activities of notified bodies also includes activities relating to the conformity assessment assigned to be carried out by the entities referred to in Article 33(1) of the Act of 13 April 2016 on conformity assessment and market surveillance systems'. | Change introduced by Article 103(16) of the Act of 13 April 2016 on conformity assessment and market surveillance systems (Journal of Laws of 2016, item 542).  In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
| Article 25k of the Rail Transport Act | 1 March 2016 | Article 25k(2) and (4) has been amended and the following section 5a has been added: 'In the event of a decision ordering obtaining a new authorisation for placing in service a structural subsystem after upgrading, the President of the RTO must specify the degree of application of the TSI for the upgrading of the subsystem.' | Change introduced by Article 1(16) of the Act of 25 September 2015 on amending the Rail Transport Act (Journal of Laws of 2016, item 1741).  In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
| Article 25m of the Rail Transport Act | 20 April 2016 | The period of prohibition of operation of a subsystem or interoperability constituent has been changed from two to three months | Change introduced by Article 103(18) of the Act of 13 April 2016 on conformity assessment and market surveillance systems (Journal of Laws of 2016, item 542). |
|  | Article 25k of the Rail Transport Act | 1 March 2016 | The following part of Article 25k(2): 'risk assessment regarding the impact of upgrading on the subsystem safety level' has been amended and reads as follows: 'assessment of the significance of the introduced change'.  The following part of Article 25(4): 'risk assessment' has been amended and reads as follows: 'assessment of the significance of the change'. A premise for the implementation strategy of the relevant TSI has also been added.  In addition, the following section 5a has been added: 'In the event of a decision ordering obtaining a new authorisation for placing in service a structural subsystem after upgrading, the President of the RTO must specify the degree of application of the TSI for the upgrading of the subsystem.' | In light of the experience so far with the implementation of Article 25k of the Act, the draft introduces its modification regarding the documentation submitted together with the application for obtaining a decision stating the need to obtain a new authorisation for placing a subsystem in service in the case of upgrading. The existing requirement to submit a risk assessment will be replaced by the requirement to submit an assessment of the significance of the change in accordance with the provisions of the European Commission establishing a common safety method for risk assessment and evaluation. The change is dictated by the need to minimise burdens for entities implementing investments in the railway sector.  In accordance with the provisions of Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009 (OJ L 121, 3.5.2013, p. 8), ('Regulation No 402/2013'), the change management process in the railway system consists of three stages and includes:   * assessment of whether the change has an impact on safety; * assessment of the significance of the change based on the criteria set out in Article 4 of Regulation No 402/2013; * risk assessment in accordance with Annex I to Regulation No 402/2013.   Each of the subsequent stages of the process depends on the successful completion of the previous stage. Therefore, the existing requirement to submit a risk assessment assumed in advance that all changes made to the subsystem as part of upgrading should be considered as being significant and having an impact on safety, which is not always the case.  At the same time, the difficulty associated with carrying out a risk assessment process at the stage of obtaining a decision stating the need to obtain a new authorisation for placing in service should be pointed out. Risk assessment is carried out on the basis of technical documentation, which is not yet available at the time of obtaining the abovementioned decision.  Moreover, according to the new Section 5a in Article 25k, in the abovementioned decision, the President of the RTO must specify the degree of application of the TSI for the upgrading of the subsystem, pursuant to Article 20(1) of Directive 2008/57/EC. In this context, therefore, conducting a risk assessment at this stage should be considered unjustified, since it will only be after obtaining the decision that the technical requirements applicable to the upgrading of the subsystem will be determined. |
| Article 25l of the Rail Transport Act | 20 April 2016 | The Article has been amended by adding section 2a, according to which: 'The charges referred to in Section 1 must be determined by the President of the RTO by way of a decision which can be appealed against.' | Change introduced by Article 103(17) of the Act of 13 April 2016 on conformity assessment and market supervision systems (Journal of Laws of 2016, item 542). |
| Article 25cb of the Rail Transport Act | The term 'notified certification body' has been replaced by the term 'notified body' | In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
|  | Article 25cc of the Rail Transport Act |
| Article 25d(6) of the Rail Transport Act |
| Article 25h of the Rail Transport Act | Articles 25h(1) and (2) of the Rail Transport Act have been amended | In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
| Article 25i of the Rail Transport Act | The amendment to the Article includes a provision indicating that notification is issued by the President of the RTO and a competence provision enabling the President of the RTO to withdraw notification or reduce its scope in specific cases. | The bill provides for the transfer of the obligation of issuing notification from the minister in charge of economy to the authorising body (minister or head of the central office competent with respect to the subject of conformity assessment), which forces amendments to Article 25i of the Rail Transport Act. In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
|  | Article 25j of the Rail Transport Act | Article 25j of the Rail Transport Act has been amended by adding sections 2 and 3. A provision has been added to section 2 according to which the President of the RTO may assign tasks relating to the supervision of the activities of notified bodies to the Polish Centre for Accreditation after agreement with its Director. Section 3 imposes on the President of the RTO the obligation to keep confidential the information received from notified bodies. | Change introduced by Article 103(16) of the Act of 13 April 2016 on conformity assessment and market surveillance systems (Journal of Laws of 2016, item 542).  In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
| Article 25o of the Rail Transport Act | The term 'notified certification body' has been replaced by the term 'notified body' | In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |
| Article 25r of the Rail Transport Act | The term 'notified certification body' has been replaced by the term 'notified body' | In order to ensure compliance with the provisions of the new Act on conformity assessment and market surveillance systems, analogous amendments must also be made to the Rail Transport Act. |



1. including two occurrences without passing a dangerous point [↑](#footnote-ref-1)