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Ministry of Economic Affairs and Communications

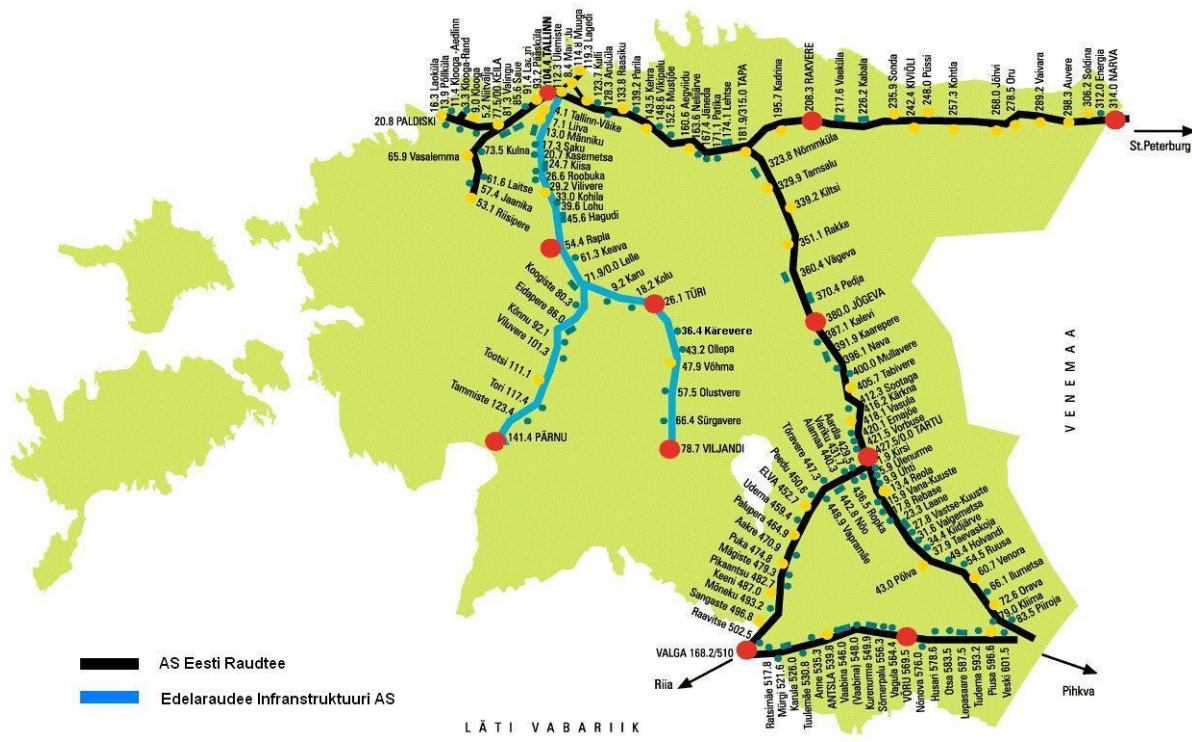
Emergency Management Department

Unit for Investigation of Railway Accidents

Annual report of railway accidents investigated in 2009

Tallinn 2010

Estonia



Public railways in the Republic of Estonia

Preface to the report

The Unit for Investigation of Railway Accidents was set up in the Ministry of Economic Affairs and Communications in the spring of 2004. Since then, each year, the Unit for Investigation has prepared annual reports on the accidents and incidents investigated during the previous year.

Since setting up of the Unit for Investigation not a single accident has happened that would have been classified as a serious accident pursuant to the Railway Safety Directive 2004/49/EC. Article 21 of the Railway Safety Directive and the corresponding provisions of § 42 of the Estonian Railways Act served as a basis for investigations of all accidents of 2009.

In classification of investigated cases this report is proceeding from the categories defined in the Safety Directive in order to have a common understanding of all annual reports prepared by other investigation bodies of railway accidents in the European Union.

The Unit for Investigation investigated four cases in 2009. Three of them were railway accidents and one a railway incident according to the Directive. Two of the investigated railway accidents happened on level crossings and as a result of both accidents one person died. By reason of the derailment of rolling stock the interruption of railway traffic lasted for more than 12 hours. The railway incident involved an imminent danger of a railway accident with more extensive consequences.

23 recommendations were made for improvement of railway traffic safety that were forwarded to the Safety Authority, RU and IM, the police and local governments. The Unit for Investigation has received from the above institutions feedback reports on the proceedings of all recommendations. The results of proceedings are presented in this report.

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1. Introduction to the Investigation Body

1.1 Legal basis

The Unit for Investigation of Railway Accidents was set up pursuant to the Railways Act on 31 March 2004. Subsection 42 (1) of the Act ensures independence of decisions made in investigation. The Unit for Investigation was established in the Emergency Management Department of the Ministry of Economic Affairs and Communications, whose tasks do not include allocation, notification and regulation functions in the railway area, and they are not responsible for the collection of taxes. The Safety Authority was formed as a separate legal person. The IM and RU do not interfere with decision-making on investigations. The requirement on the independence of investigation decisions is in accordance with the requirements of Article 21 of the European Parliament and Council Directive 2004/49/EC on Railway Safety.

Subsection 41 (5) of the Railways Act lays down the requirement for the Safety Authority to notify the Unit for Investigation of accidents and incidents. The right of access of the Unit for Investigation or their representative to the accident scene and necessary information is assured pursuant to subsection 42 (6) of the Act. The same subsection provides the Unit for Investigation of Railway Accidents lawful right to cooperate with law enforcement authorities.

The application of the provisions of the Railway Safety Directive 2004/49/EC of the European Parliament and Council in the judicial area of Estonia was completed by the amendments made to the Railways Act that were enforced on 2 March 2007. Starting from the above date the activities of the Unit for Investigation of Railway Accidents are conducted to the extent that is in accordance with the requirements of the Railway Safety Directive. The basic requirements of the Safety Directive were already provided in the Railways Act that was enforced in 2004. The amendments enforced on 2 March 2007 lay down the obligation of the Unit for Investigation to notify the European Railway Agency of commencement of investigation and to submit them the investigation report after completion of investigation. The amended Railways Act also provides the requirement for the addressees of recommendations to start proceedings and report back. The Unit for Investigation was given more power of decision to commence investigation. The activities of the Unit for Investigation of Railway Accidents are regulated by subsection 41 (5) and sections 42 and 43 of the Railways Act.

1.2 Role and aim

The Unit for Investigation of Railway Accidents was set up to organise the investigation of railway traffic accidents and incidents in terms of safety. The Unit for Investigation has the right to involve experts in their investigation and make proposals to the Minister of Economic Affairs and Communications for setting up investigation committees. The institutions involved in investigation are obligated to give assistance, within their competence, to the Unit for Investigation. While giving their assistance they do not interfere with decisions-making concerning investigation.

The Unit for Investigation of Railway Accidents is authorised to commence investigation and investigate cases laid down in the Railways Act: railway traffic accidents, railway incidents and collisions.

The main objective of the investigation of a railway accident or incident is to identify the causes of the investigated case in order to prevent their occurrence in future. Pursuant to the Railways Act the Unit for Investigation is obligated to investigate accidents in the first degree, which include also serious railway accidents for the purposes of the Railway Safety Directive. It is at the discretion of the Unit for Investigation to decide whether to commence investigation of other accidents or incidents, taking into consideration how serious they are and their possible impact.

The Unit for Investigation or the investigation committee prepare a report on the investigation results that includes facts concerning the case, approach to investigation, analysis, conclusions, action taken as well as recommendations for improvement of railway safety. The aim of the Unit for Investigation is to contribute to the improvement of railway safety.

1.3 Organisation

The Emergency Management Department was set up in the Ministry of Economic Affairs and Communications and it has been involved in the investigation of aircraft accidents since 2003. Pursuant to Article 21 of the Railway Safety Directive each Member State is obligated to ensure investigation of accidents and incidents by a permanent body, consisting of at least one investigator. The Unit for Investigation of Railway Accidents, set up in the Emergency Management Department on 31 March 2004, is the investigative body in the meaning of Article 21 of the Directive. When the investigative body was set up, an executive officer was employed in the Emergency Management Department to perform investigative tasks. The executive officer, who is the investigator-in-charge of investigation, evaluates railway accidents and incidents, makes decisions concerning commencement of investigation,

organises investigation and investigates cases, represents the Unit for Investigation, develops recommendations and measures for ensuring railway safety, reviews international normative documents, if required, and makes proposals for amendments to Estonian legal acts.

The Unit for Investigation has the right to involve experts in their investigation, commission expert assessment and testing.

The members of the investigation committee, the investigator-in-charge or experts are granted access to the railway accident or incident scenes, rolling stock, railway infrastructure, and to traffic control and signalling equipment. Similarly, they have the right to interview all people concerned, have cooperation with the authority conducting preliminary investigation of the criminal case and to have access to all information and documents pertinent to the case.

The Railways Act sets forth the obligation to investigate all cases of large-scale consequences. In addition the Unit for Investigation is entitled to make decisions on investigation of other occurrences. The decisions on what to investigate are made after consulting with the IM, RU and the Technical Surveillance Authority.

Investigation of a case is considered as completed after the investigator-in-charge or the members of the investigation committee have approved the investigation report with their signatures. The investigation report is considered to be public information. All interested parties have access to the report on the homepage of the Ministry of Economic Affairs and Communications.

The primary responsibilities of the Emergency Management Department are preparation of risk analysis, addressing problems of emergency and crisis regulation, development of cooperation with military and civil agencies in the common areas of activities, and organisation of the investigation of aircraft and railway accidents. Each employee in the Department is independent in his/her work.

1.4 Organisational flow

The Ministry of Economic Affairs and Communications performs the duties of a ministry of transport in Estonia. The Emergency Management Department is one of the functional departments of the Ministry. The budget of the Emergency Management Department is a part of the total budget of the Ministry. The Unit for Investigation of Railway Accidents does not have its own budget.

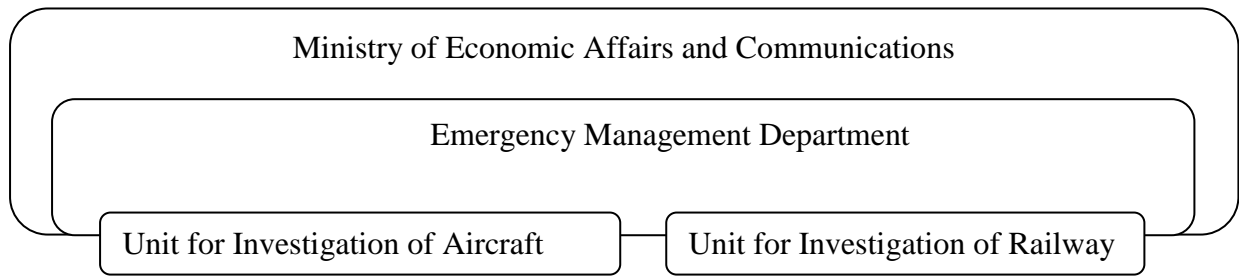


Figure 1. Investigation units in the organisational structure of the Ministry

The Secretary General of the Ministry is in charge of the administration of the Ministry of Economic Affairs and Communications and the Emergency Management Department is subordinated to the Secretary General of the Ministry. The Road and Railways Department of the Ministry is subordinated to the Deputy Secretary General. The Road and Railways Department is responsible for organisation and regulation of rail transport activities in the country.

The Technical Surveillance Authority is the national safety authority and as a sub-office of the Ministry it is a separate legal person. The Technical Surveillance Authority has a separate budget.

Railway infrastructure undertakings and rail transport undertakings are independent legal persons. The Technical Surveillance Authority exercises state supervision over them.

2. Investigation processes

2.1 Cases to be investigated

The Unit for Investigation is obligated to investigate all serious accidents in the meaning of Article 19 of the Safety Directive. Collisions of trains or derailments of trains are considered to be serious if they bring about damage specifically listed in the Directive. During application of the Railway Safety Directive in the judicial area of Estonia it was decided that serious accidents are among the accidents in the first degree pursuant to the Railways Act. All railway traffic accidents that lead to consequences that are specifically defined in the Railways Act are considered accidents in the first degree. Thus the accidents in the first degree defined by the Railways Act have a more extensive meaning than the serious accidents for the purposes of the Safety Directive. Article 21 of the Safety Directive lays down the right of investigative bodies of Member States to investigate other incidents as well. The Railways Act sets forth the investigation of serious accidents among the accidents in the first degree as well as conduction of investigation of other cases.

All railway accidents in the first degree are subject to investigation by the Unit for Investigation. Railway accidents in the first degree are traffic accidents on railway that have caused at least one of the following consequences:

- 1) extensive fire;
- 2) significant pollution of environment;
- 3) damage to assets or environment, if the damages resulting from the accident, assessed by the Unit for Investigation, are at least 31.3 million EEK (ca 2 million euros);
- 4) loss of one or several lives (except in cases where a rail vehicle runs down a person on the railway and no other consequences result);
- 5) health injuries of five or more people
- 6) or interruption of railway traffic for more than 12 hours.

In addition the Unit for Investigation of Railway Accidents is obligated to investigate all such railway traffic accidents that lead to amendments to railway safety regulations or changes in ensuring of railway safety. The Unit for Investigation of Railway Accidents has the right to investigate other railway accidents, incidents, collisions and technical failures. Before starting investigation the Unit for Investigation would also consider how serious a case is in the pan-European perspective. To assess how serious the case is the Unit for Investigation would consult the Technical Surveillance Authority and the IM and RU.

2.2 Institutions involved in investigations

Pursuant to the provisions of the Railways Act it is the investigator-in charge as the representative of the Unit for Investigation or the investigation committee who may conduct investigation. Involvement of other institutions could be direct or indirect. Since 2004 no such accident has happened in Estonia that would have required setting up of an investigation committee for investigation. As a representative of the Unit for Investigation one person has been competent to be in the capacity of the investigator-in-charge and has been responsible for the conduction of full investigation and its results.

So far our practice has been that other institutions have only indirectly been involved with investigations. Pursuant to the Railways Act they give information to the investigator-in-charge on the case, if required by him. The Unit for Investigation has developed cooperation relations with the police and alarm centres.

During investigation of level crossing accidents the investigator-in-charge would consult the road manager, local government, the owner/undertaking of the road vehicle that was in the accident. In order to get additional information the independent investigator would cooperate with private persons and railway infrastructure and railway transport undertakings. During investigation additional information is also collected from the Safety Authority.

In exceptional circumstances, when there was need, additional information was collected from the Emergency Service, Meteorology Institute, Environmental Board and Employment Board.

2.3 Investigation process and approach of the Investigation Body

The investigation process starts from the information on the case received from the Technical Surveillance Authority. The Unit for Investigation analyses the information included in the notice on the case and draws initial conclusions on whether the case meets the characteristics that require investigation or it is necessary to collect additional information for making the decision on the commencement of investigation. To collect additional information the Unit for Investigation would consult with the Safety Authority and the IM and RU within a week after receipt of the notice. Following that the decision will be made on the commencement of investigation. If the decision is to commence investigation, the representative of the Unit for Investigation will enter corresponding data in the database of the European Railway Agency and will notify the Safety Authority, the IM and RU of the commencement of investigation.

After commencement of investigation the person in the capacity of the investigator-in-charge or the investigation committee would plan necessary procedures for conducting investigation. They would collect information of the scene of the event and would examine the damages. All

cooperation partners will be contacted who have information on the case. All necessary information on the case will be collected in the course of investigation. During analysis and organising of information the person in the capacity of the investigator-in-charge or the committee are independent. If the investigator-in-charge or the investigation committee consider it necessary, they would consult an expert who is not a member of the investigation body.

Based on the collected information the investigator-in-charge or the investigation committee would identify the direct or indirect causes of the incident and would establish connections with railway traffic safety. As a result of investigation the investigator-in-charge or the investigation committee would make recommendations for improvement of railway safety with the aim of reducing the probability of occurrence of such events. In making their decisions, drawing conclusions and making recommendations concerning the investigation, the investigator-in-charge and the investigation committee are not influenced by any authority, undertaking or person. During investigation the investigator-in-charge or the investigation committee will give feedback to parties on the progress or results and will listen to their opinions.

Investigations are completed by signing of investigation reports. Investigation reports follow the content of investigation report templates provided in Annex 5 of the Safety Directive as much as possible. Investigation reports are given to parties concerned for information and implementation of recommendations. Investigation reports are published on the homepage of the Ministry of Economic Affairs and Communications and entered in the database of the European Railway Agency.

3. Investigations

3.1 Overview of investigations completed

In 2009 the investigations of four cases were completed of which three were railway accidents and one was a railway incident. A year before, in 2008 only one accident was investigated. In comparison of the two years we may observe significant growth in the number of cases investigated. We cannot draw conclusions on the growth in the number of investigations for a longer period retrospectively, since only in the year 2007 the number of cases investigated was 14.

The difference in the number of cases investigated was caused by the amendments to the Railways Act. In the spring of 2007 the Unit for Investigation acquired greater rights on deciding whether to commence investigation of a case or not. The decision-making rights also involved the obligation to forward necessary information to the European Railway Agency. The changes in legislation lead to longer periods of proceedings of single cases and more thorough consideration of circumstances related to a case.

The tables included in the annual report reflect the classification of cases according to the provisions of the Railway Safety Directive 2004/49/EC and guidance documents of the European Railway Agency.

The following table gives an overview of investigated cases:

Summary of completed investigations in 2009

Table 1

Type of accidents investigated	Number of accidents	Number of victims		Damages in € (approximation)	Trends in relation to previous years
		Deaths	Serious injuries		
Derailement	1	-	-	25150	increased
Accident on level crossing	2	2	-	43830	increased
Railway incident (other cases)	1	-	-	830	increased

The monetary equivalent of damage in investigated cases is estimated only as direct damage to railway infrastructure and rolling stock. Indirect damage to these undertakings and third parties are not defined in monetary value in investigation reports.

3.2 Investigations completed and commenced in 2009

Investigation of four cases was completed during 2009. One of them had happened at the end of the previous year. Not a single serious accident happened in Estonia in 2009. Consequently all investigations were commenced pursuant to subsection 21 (6) of the Railway Safety Directive 2004/49/EC that allows Member States to investigate other cases in addition to serious accidents. In national legislation commencement of investigation of accidents is laid down in subsections 42 (4) and (5) of the Railways Act. Commencement of investigation pursuant to the articles of the Railways Act is in compliance with the provisions of the Directive.

All cases investigated during the year were occurrences in the railway systems pursuant to the Directive and on the railway for the purposes of the Act.

The following table describes the cases investigated in 2009:

Investigations completed in 2009

Table 2

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Completed (date)
04.12.2008	Derailment of rolling stock in freight train, accident on Kunda – Rakvere open track in Aluvere fen, km 7 picket 5	i	07.04.2009
18.02.2009	Falling off of a part of rolling stock on the track, incident (other case) at Vaivara station, km 288,804	i	22.05.2009
24.05.2009	Collision of a car and passenger train, level crossing accident on Rakke – Vägeva open track on Vägeva level crossing, km 359,001	i	28.10.2009
26.08.2009	Collision of a car and passenger train, level crossing accident on Kärkna – Tartu open track on Tiksoja level crossing, km 423,631	i	16.12.2009

Basis for investigation: i = according to the Safety Directive

According to national legislation the investigated cases are categorised as accidents in the first degree as follows: derailment of rolling stock in Aluvere fen on 04.12.2008 – due to interruption of traffic for more than 12 hours; accidents that happened at Vägeva level crossing on 24.05.2009 and at Tiksoja level crossing on 26.08.2009, because in both accidents a person died as a result of the collision of train with another vehicle.

Falling of a part of rolling stock on the tracks at Vaivara station on 18.02.2009 caused damages to the rail track and thus the case was nationally classified as a railway accident and according to the Safety Directive as an incident.

At the end of 2009 an accident occurred and the Unit for Investigation started its investigation in 2009 and continued in 2010. According to national legislation it was an accident in the first degree and its investigation is obligatory according to subsection 42 (4) of the Railways Act. For the purposes of the European Union legislation the investigation of that accident is based on Article 21 of the Railway Safety Directive 2004/49/EC.

Information about the above case is given in the following table:

Investigations commenced in 2009

Table 3

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis
21.11.2009	Collision of truck and passenger train, level crossing accident on Liiva – Kiisa open track on Männiku level crossing, km 14,599	i

Basis for investigation: i = according to the Safety Directive

3.3 Summaries of investigations completed in 2009

Kunda 04.12.2008



In the daytime, at 13.15, six last wagons of the freight train belonging to AS Kunda Trans were derailed on the railway infrastructure of the same company on Kunda – Rakvere open track in Aluvere fen.

The freight train was travelling at the speed of 38km/h instead of allowed 25km/h on the rail embankment of low maintenance. During autumn rains the track bed under permanent way had softened because of excessive moisture accumulated there. Vibrations generated by the train lead to the movement of soil. The interaction of train weight and displacement of soil lead to rail fracture and breaking of sleepers, that in turn caused the derailment of the last wagons.

People were not injured in the accident. The six derailed wagons suffered damages, their wheelsets, bogies and brake and couple systems were damaged. Railway infrastructure was damaged to the extent of 138m. The rail fracture was fixed and sleepers were replaced in a 1 km track.

Later, during rehabilitation work, 5 wagons were emptied of 339.65 t of cargo and that inflicted a loss on the third party. The accident did not cause any environmental damage.

Rehabilitation work was carried out only in the daytime in order not to damage the high voltage line running parallel to the railway line. Railway traffic was interrupted for more than four days.

The investigation report included five recommendations made to AS Kunda Trans for improvement of their safety management system, for specification of the extent of their

employees' responsibility and strengthening of supervision. Two recommendations were made to the Safety Authority for management of supervision.

Vaivara 18.02.2009



At 09.24 in the morning the bottom cover of the enclosing frame of gear reducer had come loose in the B-section of the locomotive 2TE116 No. 795 in freight train. After falling into suspension it hit and damaged the guard sleeper of switch No. 30. At the distance of 58m of switch No.30 and while approaching switch No.6 the cover dropped off the enclosing frame and by falling on the track damaged the guard sleeper. The bottom cover of the enclosing frame of gear reducer stopped at the switch heel block. The incident occurred at the switch during entrance to Vaivara station. According to the Railways Act it was an accident. According to the Safety Directive it was an incident.

The locomotive had undergone maintenance within the last 24 hours in a locomotive maintenance unit in the Russian Federation and they had discovered a dent in the rolling section of the metal tyre located at the sixth wheelset, but the dimensions of the dent were within tolerance limits. We are not convinced that the bolts of the bottom cover of the gear reducer were rigidly fastened.

For the purposes of the Railways Act of the Republic of Estonia the undertaking, which carried out maintenance of the locomotive that ended up in accident, did not have the necessary activity licence. Prior to the accident the locomotive crew had not sufficiently used the opportunities they had during a longer stop to inspect the technical conditions of the locomotive. Instructions for locomotive crews repeat the requirements laid down in general regulations to pay special attention to prevention of falling off of details from equipment.

The cause of the accident was the clearance of the fastening bolt in the bottom cover of the gear reducer, loosening of the fastening of bolts, falling off of bolts and falling down of the

bottom cover of the gear reducer and its coming loose of the gear reducer. The contributing factor was the resonance generated during rotation of the dent, located in the rolling section of the metal tyre of the sixth wheelset, with the vibration of the tip of the clearance of the bottom cover.

Four recommendations were made to the RU in the investigation report for improvement of railway safety and reduction in the number such accidents: as a part of the safety management system of the undertaking to specify documented instructions on carrying out inspection of locomotives, to analyse different activities of the inspection of locomotives during training of locomotive crews, to develop practical skills of locomotive crews in following instructions and to ensure carrying out of maintenance in accordance with legal acts. The Safety Authority was made a recommendation to analyse requirements established for maintenance.

Vägeva 24.05.2009



At 18.35 in the evening a car collided with a passenger train at automatically regulated Vägeva level crossing while driving along a rural road.

The car driver was slightly intoxicated by alcohol, did not pay enough attention and was driving too fast for the traffic conditions. He crashed into the side of the train between the first bogie and the first vestibule. The fact that it was difficult to see the flashing traffic lights of weak intensity in bright sunlight was also instrumental to the event.

As a result of collision the car was thrown to the meadow next to the road, the car driver died, the car overturned, stopped on its roof and became unfit for use. The compressed air system and power system and automatic doors of the railcar DR1B-3720 at the head of a 5-car diesel train were damaged. The surface of external paint was damaged as well as the compressed air system of the railcar trailer DR1B-4720 that was the second car of the train.

A recommendation to the IM in the investigation report was to plan equipping the level crossing with modern crossing traffic lights. Five recommendations were made to the Safety Authority. They were asked to map the technical, legal and organisational problems concerning putting into service of automatic control and data recording systems or upgrading and extension of the use of existing systems.

Tiksoja 26.08.2009



At 09.41 in the morning the collision of a passenger train and car occurred on automatically regulated Tiksoja level crossing, outside of densely populated areas.

A diesel train travelling as a passenger train hit the right side of the car. The front of the car was thrown to the oncoming lane and the rear into the ditch, out of the road. The train stopped on the tracks at 260 m from the level crossing.

The driver had driven to the level crossing without making sure that the approaching train already was on the level crossing and the car was not allowed to drive there. Low intensity of prohibiting flashing lights of the old-type crossing traffic lights in a situation of direct bright sunlight falling on the traffic lights made it difficult for the driver to notice them and this contributed to the occurrence of accident.

Following the accident the car driver, who was alone in the car, died. The automatic coupler, snow plough and compressed air hoses of the railcar DR1BJ-3717 at the head of the 3-car diesel train were damaged as a result of the accident. Railway infrastructure remained intact. The car broke into two parts. The whole body and the right side of the car were damaged. Glass was broken and the doors on the right side and the passenger seat were torn off. The car became unfit for use.

Railway safety conditions are worsened by a dwelling, outbuildings and orchard located at the distance of 15.5 m from the level crossing. They are blocking the visibility of the locomotive crew and car driver of each other.

At the end of the investigation report there were two recommendations made to the IM for making risk analysis of the level crossing. One recommendation was made to the Safety Authority for evaluation of the adequacy of the risk analysis. The police were made a recommendation for executing surveillance and the local government received a recommendation for finding a new place of residence for these people.

3.4 Comments on investigations

Investigations of four cases were completed during the year. The Unit for Investigation of Railway Accidents did not commence investigation of any such case that for some reason would have been suspended and then not continued during the following year.

Two of the investigated accidents happened at level crossings. People suffered in these accidents. The following table describes the number of injured and deaths of the investigated accidents in the last five years:

Total number of deaths and the injured

Table 4

Year	Deaths	Injured in road vehicle / of them seriously	Injured in rolling stock / of them seriously
2005	2	13	1
2006	-	8	7
2007	4	6/2	5/1
2008	1	-	-
2009	2	-	-
Total	9	27	13

The above table shows that in all the cases investigated the number of deaths does not exceed five and the total of deaths for the five years is under ten. In the last two years there were no injured people neither in the rolling stock nor in road vehicles.

The breakdown of the injured and deaths is presented in the following table:

Breakdown of the injured and deaths

Table 5

Breakdown by type of persons		Year, number				
		2005	2006	2007	2008	2009
Deaths	Passengers	-	-	-	-	-
	Staff	-	-	-	-	-
	Other persons	2	-	4	1	2
	Total	2	-	4	1	2
Injured	Passengers	-	6	1	-	-
	Staff	1	1	4	-	-
	Other persons	13	8	6	-	-
	Total	14	15	11	-	-

The above table shows that only third persons have died in the investigated accidents. They were persons who were in road vehicles during level crossing accidents. There were no deaths in the other investigated accidents. The highest number of the injured is also among third persons. In the accidents investigated in the last two years there were no injuries.

In 2009 the accidents involving deaths happened on level crossings. One of the major contributing factors in the accidents was intensive sunlight that distracted drivers' attention. Both accidents happened on automatically regulated level crossings with functioning crossing traffic lights. In both cases we should also consider the peculiarities of the psychological state and response speed of the drivers. On one occasion the response speed and attention of the driver were impeded by the fact that he was intoxicated, on the other occasion it was the advanced age of the driver. In such cases the decision of the driver on whether to drive and what kind of driving manner to choose depends on how adequate his self-esteem is. Assessment and taking into account of changing traffic conditions during driving is one of the measures drivers can use for improvement of driving safety. The possibility for traffic organisers to contribute to improvement of traffic safety is to introduce signalling systems that in dangerous situations could affect various senses.

3.5 Accidents and incidents investigated during last five years (in 2005 – 2009)

In the last five years not a single such accident happened in Estonia of which investigation would have commenced based on Article 19 of the Railway Safety Directive 2004/49/EC. All cases investigated were cases according to Article 21 and they are described in the following table:

Breakdown of investigated cases by years

Table 6

Title of the case	Year, number of investigations					
	2005	2006	2007	2008	2009	Total
Train collision	-	-	-	-	-	-
Train collision with an obstacle	-	-	1	-	-	1
Train derailment	2	1	1	-	1	5
Level crossing accident	25	18	12	1	2	58
Accident to person caused by RS in motion	-	-	-	-	-	-
Fire in rolling stock	-	-	-	-	-	-
Involving dangerous goods	-	-	-	-	-	-
Incident	-	1	-	-	1	2
Total	27	20	14	1	4	66

The above table shows that the number of accidents investigated was different each year. The biggest change took place in 2007 with the adoption of the Safety Directive in the judicial area of Estonia. To commence investigation of a railway accident we evaluate the circumstances of the case. If during evaluation of the case it turns out that the given incident could have lead to more extensive damages in similar circumstances or other significant circumstances are discovered, the Unit for Investigations will decide to commence investigation.

4. Recommendations

4.1 Short review and presentation of recommendations

Recommendations made in investigation reports for improvement of railway safety may be categorised by areas. The following table gives an overview of recommendations by years:

Recommendations for improvement of safety

Table 7

Field of activity of recommendation	Year, number of recommendations				
	2005	2006	2007	2008	2009
Maintenance and care of railway infrastructure	8	1	-	1	-
Care, maintenance and managing of rolling stock	4	5	-	-	1
Organisation of supervision	9	7	2	1	5
Road traffic management, road traffic control devices	33	10	7	-	-
Winter maintenance of roads	7	6	6	-	-
Dissemination of information concerning traffic, training	17	14	3	-	-
Amendments to legal acts and regulating instructions	17	8	5	2	5
Operation of traffic lights, railway traffic control	17	9	7	-	4
Organisation of operation of railway communication devices	6	4	1	-	-
Professional qualifications of railwaymen	2	2	1	-	1
Other arrangements	32	22	19	-	7
Total	152	88	51	4	23

During the year recommendations were made to six addressees. All of them have submitted reports on the implementation of recommendations.

The largest number of recommendations was made to the Safety Authority – the Technical Surveillance Authority. The Safety Authority conducted proceedings of all nine recommendations. Based on the proceedings the Safety Authority prepared a report. The report shows that by the time of submitting of the report they had accepted and implemented four recommendations and were continuing proceedings of five recommendations.

Twelve recommendations were made to railway transport and railway infrastructure undertakings: five recommendations to AS Kunda Trans, three to AS Eesti Raudtee and four recommendations to Westgate Transport OÜ. In addition one recommendation was made to a local government and one to the police. The addressees of all recommendations took action and the proceedings of the recommendations were reflected in their reports submitted to the Unit for Investigation.

With the decision of the owner the railway transport undertaking Westgate Transport OÜ suspended the provision of railway transport services from 01.06.2009 for business reasons. Thus the recommendations made to the undertaking are not any more relevant for them. However, the undertaking does not exclude resuming provision of railway transport services and is ready to meet all railway safety requirements again in future. If the situation changes, Westgate Transport OÜ will continue proceeding of the recommendations made.

Implementation of recommendations

Table 8

Recommendations issued		Recommendation implementation status							
		Implemented		In progress		Not to be implemented		No information	
Year	Number	Number	%	Number	%	Number	%	Number	%
2006	88	25	28,41	15	17,04	1	01,14	47	53,41
2007	51	21	41,18	28	54,90	-	-	2	03,92
2008	4	4	100	-	-	-	-	-	-
2009	23	6	26,09	17	73,91	-	-	-	-
Total	166	56	33,74	60	36,14	1	0,60	49	29,52

4.2 Recommendations 2009

The recommendations for improvement of railway safety that were made in the investigation reports during the year are listed in this subsection. The recommendations are grouped by recipients.

AS Kunda Trans is a railway infrastructure and railway transport undertaking on whose infrastructure the accident with rolling stock happened. The recommendations made to AS Kunda Trans are listed below:

1. To improve their safety management system concerning carrying out of maintenance, use and monitoring of speedrecorders. To ensure the intended use of devices and availability, preservation and use of all recorded data of the devices for improvement of traffic safety.
2. With specification of the responsibilities of officials, to improve the safety management system for carrying out monitoring of the technical conditions of rail tracks and procedures for taking action on the results.
3. To improve the safety management system by establishing a procedure for risk assessment. To define responsibilities and methods for all units for collecting, preservation, transfer and processing of information, and implementing measures within their authority.
4. To prepare risk analysis for the conditions of railway infrastructure in Aluveres.
5. To take measures in the undertaking for ensuring observance of speed limits for rolling stock.

Westgate Transport OÜ is a railway transport undertaking whose freight train had an accident on public railway. The following recommendations were made to Westgate Transport OÜ:

1. To review the instruction *Work performed during technical survey of locomotives TO-1* and to specify the concrete tasks of locomotive crews to check guards preventing falling off of details on rail tracks.
2. During in-house further training of locomotive crews to develop close and strong connections between knowledge and application of practical skills during carrying out of inspection of locomotives.
3. To bring carrying out of maintenance of locomotives travelling on Estonian public railways into conformity with the requirements established in the Railways Act.
4. To specify the restrictions on the use of the safety management system to comply with the purposes of the Railway Safety Directive 2004/49/EC and the Railways Act.

AS Eesti Raudtee is a group whose subsidiary AS EVR Infra is the manager of the railway infrastructure on which one incident and two railway accidents investigated during the year happened. The following recommendations were made to AS Eesti Raudtee:

1. To plan equipping of Vägeva level crossing traffic lights with modern LED-type 3 head light sources.
2. Based on the safety management system of railway infrastructure management of AS EVR Infra to prepare risk analysis for Tiksoja level crossing.

3. Based on the risk analysis of Tiksoja level crossing to adopt a position on possible installation of barriers at the level crossing or implementation of measures on the extension of the field of vision.

One of the railway accidents investigated occurred in the administration area of the Southern Police Prefecture. The following recommendation was made to the Tartu Police Department of the Southern Police Prefecture:

1. To increase frequency of traffic supervision inspections near Tiksoja level crossing on observance of established speed limits by road vehicles.

One of the railway accidents investigated occurred in the administration territory of Tähtvere Rural Municipality. The following recommendation was made to Tähtvere Rural Municipality Government:

1. To find possibilities in cooperation with AS Eesti Raudtee to free the buildings limiting the field of vision at Tiksoja level crossing of inhabitants.

The Technical Surveillance Authority fulfils the responsibilities of the Safety Authority in Estonia. Their sphere of responsibility is exercising supervision of railway infrastructure and railway transport undertakings. The following recommendations were made to the Technical Surveillance Authority on the cases investigated during the year:

1. To plan inspections on the use of speedrecorders and internal supervision in AS Kunda Trans.
2. To plan implementation of such supervision measures of AS Kunda Trans that would direct the undertaking to systematic collection and analysis of safety information, drawing conclusions and consequently systematic introduction of additional measures for improvement of railway safety.
3. To take a position on the need to warn locomotive crews of the defects, within tolerance limits, detected during technical maintenance of rolling stock in order to focus the attention of locomotive crews on the defect.
4. To map technical, legal and organisational problems related to on-board equipment of locomotives and self-propelled rolling stock, or other equipment showing information about the oncoming crossing traffic lights, depending on the method of getting information and the purpose for recording it by on-board equipment.
5. To map technical, legal and organisational problems related to putting into service of automatic control and recording systems of crossing traffic lights and expansion of the use of existing systems as well as improvement of working methods in railway infrastructure undertakings.

6. To take a position on the need for possible provision of the rail vehicle driver's workplace with necessary information on the operation of the oncoming crossing traffic lights.
7. To take a position on the prospective need for the development of automatic control and recording systems of crossing traffic lights by railway infrastructure undertakings.
8. To take measures for improvement of traffic safety at Vägeva level crossing by installation of crossing traffic lights with more intensive light source.
9. To verify how AS Eesti Raudtee prepares risk analysis and to evaluate the adequacy of conclusions made and their implementation plans in the light of railway safety.

Annexes

Annex 1/1

Proceeding of recommendations – Kunda, 04.12.2008

Date and time	04.12.2008 at 13.15		
Location	AS Kunda Trans infrastructure, Kunda – Rakvere open track Aluvere fen, km 7 picket 5		
Type of occurrence	Railway accident – derailment of rolling stock in a train		
Train type and number	Freight train No. 041205		
Road vehicle	-		
		In the train	In the road vehicle
Persons on board	Crew	4	-
	Passengers	-	-
Fatally injured	Crew	-	-
	Passengers	-	-
Seriously injured	Crew	-	-
	Passengers	-	-
Slightly injured	Crew	-	-
	Passengers	-	-
Damages of rolling stock	Damages to wheelsets, bogies and brake and couple systems of six open wagons.		
Damages of track equipment	Damage to rail tracks to the extent of 138 m, including a rail fracture.		
Other damages	-		

<p>Summary:</p> <p>The train was travelling at a higher speed than the speed limit on the railway tracks that were on the soil softened after autumn rains. The displacement of soil lead to the rail fracture that caused derailment of six wagons.</p>		
Final report issued		07.04.2009
Recommendation No. 01	The undertaking has not exercised sufficient supervision over the use of speedrecorders.	
	To improve the safety management system concerning carrying out of maintenance, use and monitoring of speedrecorders. To ensure the intended use of devices and availability, preservation and use of all recorded data of the devices for improvement of traffic safety.	
Date	Status	Explanation
May 2009 to May 2014	Proceedings continue	They are observing the weight limits established in the undertaking for autumn, winter and spring seasons. Amendments are made to the safety management system and job descriptions of locomotive drivers for monitoring the use and maintenance of speedrecorders.
Recommendation No. 02	The undertaking does not have a sufficient overview of the status of infrastructure.	
	With specification of the responsibilities of officials, to improve the safety management system for carrying out monitoring of the technical conditions of rail tracks and procedures for taking action on the results.	
Date	Status	Explanation
30.03.2010	Accepted and implemented	They have improved supervision on how the locomotive crews follow the operating instructions of brakes and the operating instructions of speedrecorders, including instruction of locomotive crews once every three months.

Recommendation No. 03	The undertaking does not have an integrated procedure of risk assessment.	
	To improve the safety management system by establishing a procedure for risk assessment. To define responsibilities and methods for all units for collecting, preservation, transfer and processing of information, and implementing measures within their authority.	
Date	Status	Explanation
May 2009 to May 2014	Proceedings continue	They are analysing the existing safety management system and making amendments to it. The undertaking has formed a committee for infrastructure risk analysis, consisting of the Head of Transport Department, stationmaster and rail track master.
Recommendation No. 04	The undertaking does not have an adequate evaluation of the conditions of the railway infrastructure in Aluvere fen.	
	To prepare risk analysis for the conditions of railway infrastructure in Aluvere fen.	
Date	Status	Explanation
13.04.2010	Proceedings continue	The final evaluation of the railway section in Aluvere fen and the necessary work to be done can be determined after the end of high water.
Recommendation No. 05	The locomotive crew of the train that ended up in accident did not observe the established speed limits.	
	To take measures in the undertaking for ensuring observance of speed limits for rolling stock.	
Date	Status	Explanation
13.04.2010	Proceedings continue	At the beginning of each month to analyse the observance of speed limits with locomotive drivers based on the indications on the tapes of speedrecorders.

Recommendation No. 06	The undertaking does not have integrated approach to the use of speedrecorders.	
	For NSA to plan control on the use of speedrecorders of rolling stock and performance of internal supervision in AS Kunda Trans.	
Date	Status	Explanation
06.05.2009	Accepted and implemented	During surveillance it was established that the undertaking has implemented necessary rules. The rules regulate the use of speedrecorders. Provisions have been made for organisation of internal supervision in the undertaking.
Recommendation No. 07	During investigation of the case it was established that the safety activities of the undertaking had no consistency and system.	
	For NSA to plan application of such supervision measures for AS Kunda Trans that would direct the undertaking to systematic collection and analysis of safety information, drawing conclusions and systematic use of additional measures based on thereof for improvement of railway safety.	
Date	Status	Explanation
06.05.2009 July to November 2009	Proceedings continue	Supervision was carried out in the undertaking. As a result of targeted activities the undertaking has made amendments to their safety management system that take into account the requirement of systematic approach to safety activities and their transparency.

Proceeding of recommendations – Vaivara, 18.02.2009

Date and time	18.02.2009 at 09.24		
Location	On the infrastructure of AS EVR Infra during entrance to Vaivara station at switch No. 30, km 288,804.		
Type of occurrence	Incident (other occurrence) – the bottom cover of the enclosing frame of gear reducer of locomotive came loose and in suspension hit and damaged the guard sleeper of switch. The cover fell down on tracks.		
Train type and number	Freight train No. 1556		
Road vehicle	-		
		In the train	In the road vehicle
Persons on board	Crew	2	-
	Passengers	-	-
Fatally injured	Crew	-	-
	Passengers	-	-
Seriously injured	Crew	-	-
	Passengers	-	-
Slightly injured	Crew	-	-
	Passengers	-	-
Damages of rolling stock	Falling on tracks and deformation of the bottom cover and fastening bolts of the enclosing frame of gear reducer of locomotive.		
Damages of track equipment	Damages to guard sleepers of two		

	switches.	
Other damages	-	
<p>Summary:</p> <p>During movement the locomotive of freight train lost the fastening bolts of the bottom cover of the enclosing frame of gear reducer that had come loose. Coming into Vaivara station the suspending cover hit and damaged the guard sleeper of switch No. 30 and at the distance of 58 metres fell on the tracks at switch No. 6, damaging its guard sleeper.</p>		
Final report issued	22.05.2009	
Recommendation No. 01	Rolling stock in working order may have deviations within tolerance limit. If the locomotive crew is aware of them, they can focus their attention on traffic safety statuses that might occur due to changes in deviations.	
	To take a position on the need to warn locomotive crews of the defects within tolerance limits, detected on rolling stock, in order to focus the attention of locomotive crews on the defect.	
Date	Status	Explanation
01.04.2010	Accepted and implemented	By now they have guaranteed that locomotives travelling in the network undergo regular maintenance and overhauls in a way that the whole process is transparent and in compliance.
Recommendation No. 02	The instruction did not specifically obligate to check guards preventing falling off of details on tracks.	
	To review the instruction <i>Work performed during technical survey of locomotives TO-1</i> and to specify the concrete tasks of locomotive crews to check guards preventing falling off of details on rail tracks.	
Date	Status	Explanation
01.06.2009	Proceedings will continue after their decision on resuming of providing transport services.	The undertaking has no contractual relationships with AS EVR Infra to use the infrastructure and thus the recommendation to make amendments to their regulations are not any more relevant for them. When the

		undertaking resumes providing railway transport services, it will meet all requirements to ensure railway safety.
Recommendation No. 03	The locomotive crews had not developed firm practical habits to apply their knowledge and skills according to instructions.	
	During in-house further training of locomotive crews to develop close and strong connections between knowledge and practical application of skills during carrying out of inspection of locomotives.	
Date	Status	Explanation
01.06.2009	Proceedings will continue after their decision on resuming of providing transport services	Owing to the finishing of providing railway transport services the recommendation is not relevant for the undertaking. When the undertaking resumes providing railway transport services, it will meet all requirements to ensure railway safety.
Recommendation No. 04	Carrying out of maintenance of locomotives was not in conformity with the Estonian Railways Act.	
	To bring carrying out of maintenance of locomotives travelling on Estonian public railways into conformity with the requirements established in the Railways Act.	
Date	Status	Explanation
May 2009	Proceedings will continue after their decision on resuming of providing transport services	The undertaking has planned to carry out necessary maintenance of locomotives in the Republic of Estonia from the start of the 2009/2010 schedule according to the provisions of the Railways Act.
01.06.2009		Owing to the finishing of providing railway transport services the recommendation is not relevant for the undertaking. When the undertaking resumes providing railway transport services, it will meet all requirements to ensure traffic safety of trains.

Recommendation No. 05	The undertaking had established restrictions on the disclosure of information on their safety management system. This is in conflict with the conduction of safety investigation of railway accidents and publishing of its results according to the Railway Safety Directive and the Railways Act.	
	To specify the restrictions on the use of the safety management system to comply with the purposes of the Railway Safety Directive 2004/49/EC and the Railways Act.	
Date	Status	Explanation
01.06.2009	Proceedings will continue after their decision on resuming of providing transport services	The undertaking has no contractual relationships with AS EVR Infra to use the infrastructure and thus the recommendation to make amendments to their regulations are not any more relevant for them. When the undertaking resumes providing railway transport services, it will meet all requirements to ensure railway safety.

Proceeding of recommendations – Vägeva, 24.05.2009

Date and time	24.05.2009, at 18.35		
Location	On the infrastructure of AS EVR Infra AS EVR Infra at Rakke – Vägeva open track on Vägeva level crossing, km 359,001.		
Type of occurrence	Level crossing accident, collision of passenger train with another vehicle, resulting in one death.		
Train type and number	Passenger train No. 0014		
Road vehicle	Fiat Doblo car		
		In the train	In the road vehicle
Persons on board	Crew	4	1
	Passengers	120	-
Fatally injured	Crew	-	1
	Passengers	-	-
Seriously injured	Crew	-	-
	Passengers	-	-
Slightly injured	Crew	-	-
	Passengers	-	-
Damages of rolling stock	The compressed air system and power system, battery box, automatic doors and the external paint of the railcar DR1B-3720 and the compressed air system of the railcar trailer DR1B-4720 were damaged.		
Damages of track equipment	-		

Other damages		The Fiat Doblo car became unfit for use
<p>Summary:</p> <p>A Fiat Doblo car crashed into the side of the first railcar of the passenger train No. 0014 at an automatically regulated level crossing.</p>		
Final report issued		28.10.2009
Recommendation No. 01	The level crossing was equipped with old-type crossing traffic lights that had light sources of weaker intensity.	
	To plan equipping of Vägeva level crossing traffic lights with modern LED-type 3 head light sources.	
Date	Status	Explanation
30.03.2010	Proceedings continue	Renovation of the automatic signalling equipment of Vägeva level crossing, including installation of crossing traffic lights with LED-type light sources in the first half-year of 2011.
Recommendation No. 02	Locomotive crews have no information on the operation of oncoming crossing traffic lights.	
	To map technical, legal and organisational problems related to on-board equipment of locomotives and self-propelled rolling stock, or other equipment showing information on the oncoming crossing traffic lights, depending on the method of getting information and the purpose for recording it by on-board equipment.	
Date	Status	Explanation
August, September 2009 01.04.2010	Accepted and implemented	Solution of technical and organisational problems is possible in application of the ETCS and GSM-R. It has been planned to create legal basis within the framework of proposing amendments to the <i>Rules for technical use of railway</i> that is in the work schedule of the Technical Surveillance Authority for 2020 and 2011.
Recommendation No. 03	The railway infrastructure undertaking has not connected all crossing traffic lights into the automatic control network that could adequately record the performance of crossing traffic lights.	

	To map technical, legal and organisational problems related to putting into service of automatic control and recording systems of crossing traffic lights and expansion of the use of existing systems as well as improvement of working methods in railway infrastructure undertakings.	
Date	Status	Explanation
01.04.2010	Proceedings continue	<i>Rules for construction, maintenance and use of level crossings</i> are being proceeded and the draft includes the requirement that would obligate railway infrastructure managers to ensure forwarding and recording of information on the status of level crossings. The named obligation will be enforced after a transitional period after adoption of the draft to allow undertakings possibilities for planning their work and resources.
Recommendation No. 04	Locomotive crews have no information on whether the traffic lights at the oncoming level crossing are functioning or not.	
	To take a position on the need for possible provision of the rail vehicle driver's workplace with necessary information on the operation of the oncoming crossing traffic lights.	
Date	Status	Explanation
01.04.2010	Proceedings continue	At present it is not possible, with reasonable efforts, to equip the rail vehicle driver's workplace with named functionalities, since the equipment available does not technically provide for such possibilities. In order to achieve technical availability possibilities for the application of ETCS and GSM-R will be elaborated.
Recommendation No. 05	In addition to AS EVR Infra there are other railway infrastructure undertakings the performance of whose crossing traffic lights can be assessed only on-site.	

	To take a position on the prospective need for development of the automatic control and recording systems of crossing traffic lights by railway infrastructure undertakings.	
Date	Status	Explanation
01.04.2010	Accepted and implemented	In the new draft of the <i>Rules for technical use of railway</i> the requirement is mandatory, but with a transition period.
Recommendation No. 06	The Safety Authority as a supervision authority can have their impact on railway infrastructure to become safer.	
	To take measures for improvement of traffic safety at Vägeva level crossing by installation of crossing traffic lights with more intensive light source.	
Date	Status	Explanation
01.04.2010	Proceedings continue	In the level crossings committee meeting of AS EVR Infra the Safety Authority drew attention to the amortized traffic lights of Vägeva level crossing that they had detected during surveillance activities in 2009. After completing additional analysis the Safety Authority will make a recommendation to the railway infrastructure undertaking for setting up an extraordinary committee for evaluation of visibility on the level crossing and finding ways for replacing the traffic lights in 2010.

Proceeding of recommendations – Tiksoja, 26.08.2009

Date and time	26.08.2009, at 09.41		
Location	At AS EVR Infra infrastructure, on Kärkna – Tartu open track on Tiksoja level crossing, km 423,631.		
Type of occurrence	Level crossing accident, collision of passenger train with other vehicle that lead to a death.		
Train type and number	Passenger train No. 0210		
Road vehicle	Volkswagen Golf car		
		In the train	In the road vehicle
Persons on board	Crew	3	1
	Passengers	65	-
Fatally injured	Crew	-	1
	Passengers	-	-
Seriously injured	Crew	-	-
	Passengers	-	-
Slightly injured	Crew	-	-
	Passengers	-	-
Damages of rolling stock	The bearer hinges of the shackle of automatic coupler, snow plough and compressed air hoses of railcar DR1BJ-3717 were damaged.		
Damages of track equipment	-		
Other damages	The Volkswagen Golf car became unfit for use.		

<p>Summary:</p> <p>The passenger train 0210 hit the side of a Volkswagen Golf car that had driven to Tiksoja automatically regulated level crossing during prohibiting traffic lights .</p>		
Final report issued		16.12.2009
Recommendation No. 01	Tiksoja level crossing is equipped with devices as required by norms, but accidents happen there more often than on other level crossings.	
	Based on the safety management system of the railway infrastructure management in AS EVR Infra to prepare risk assessment for Tiksoja level crossing.	
Date	Status	Explanation
February – March 2010	Accepted and implemented	During assessment of Tiksoja level crossing threats that could lead to emergencies were identified and measures were defined for prevention of possible accidents /or mitigation of consequences of accidents.
Recommendation No. 02	Based on the risk analysis it would be appropriate to develop additional measures for improvement of railway safety in a situation when the level crossing is equipped with devices in accordance with norms.	
	Based on the risk analysis of Tiksoja level crossing to adopt a position on possible installation of barriers at the level crossing or implementation of measures on the extension of the field of vision.	
Date	Status	Explanation
September 2009	Proceedings continue	AS EVR Infra equipped the level crossing with LED-type 3 head traffic lights and that would significantly improve the visibility of traffic lights for vehicle drivers in the situation when the sun is shining from behind the driver in the direction of traffic lights.
30 April 2010		Agreement was reached with the person living next to the level crossing. He will demolish the cowshed and cut the apple

May – July 2010		<p>trees that restrict visibility most.</p> <p>AS EVR Infra will cut brushwood along all roads coming to the level crossing and will apply to Tähtvere Rural Municipality government for permission to demolish the buildings near the level crossing. They will also demolish the dwelling after the inhabitants have moved out.</p> <p>Taking into account the above-mentioned measures for improving visibility and planning of building a viaduct for Tiksoja, no plans were made for equipping the level crossing with barriers.</p>
Recommendation No. 03	Improvement of traffic obedience of road users will help to improve traffic safety.	
	To increase frequency of traffic supervision inspections near Tiksoja level crossing on observance of established speed limits for road traffic.	
Date	Status	Explanation
In 2010 on 04.01; 11.01; 19.01; 20.01; 27.01; 04.02; 09.02; 16.02; 28.02; 01.03; 15.03; 16.03.	Proceedings continue	Inspection of road users on observance of established speed limits for road traffic. 12 drivers were found exceeding established speed limits and four infringements of other traffic rules were detected.
Recommendation No. 04	Safety Authority as a supervision authority can evaluate the risk analysis and the adequacy of conclusions made and measures planned.	
	To verify how AS Eesti Raudtee prepares risk analysis and to evaluate the adequacy of conclusions made and their implementation plans in the light of railway safety.	
Date	Status	Explanation
01.04.2010	Proceedings continue	The Safety Authority has made the analysis of accidents that happened on

		Tiksoja level crossing in several years and has made several recommendations to AS EVR Infra for achieving better visibility at the level crossing.
Recommendation No. 05	Visibility on the level crossing is restricted by buildings that are very close to railway.	
	To find possibilities in cooperation with AS Eesti Raudtee to free the buildings limiting the field of vision at Tiksoja level crossing of inhabitants.	
Date	Status	Explanation
19.03.2010	Proceedings continue	Tähtvere Rural Municipality Government will cooperate with AS EVR Infra to free the dwelling, that is limiting the visibility, of tenants. Some other measures will be taken to improve the visibility on the level crossing. Joint meetings of the interested parties will be held in the premises of the Rural Municipality Government for making Tiksoja level crossing safer.