



LATVIJAS REPUBLIKA
TRANSPORTA NELAIMES GADĪJUMU UN INCIDENTU
IZMEKLĒŠANAS BIROJS

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On Investigation of Railway Accidents

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Pārskata kopsavilkums

Latvijas Republikā smagas dzelzceļa avārijas un nopietnus negadījumus izmeklē Transporta nelaimes gadījumu un incidentu izmeklēšanas birojs (turpmāk – Birojs).

Pārskatā iekļauta informācija par Biroja darbu dzelzceļa avāriju izmeklēšanas jomā, par Biroja sadarbību ar citām institūcijām, kā arī par pabeigtajām izmeklēšanām 2010. gadā.

Birojs 2010. gadā pabeidza izmeklēt vienu dzelzceļa avāriju. Šīs avārijas rezultātā vilcienu kustība tika pārtraukta gandrīz astoņas stundas. Šajā negadījumā nebija cietušo un bojā gājušo personu.

Pēc dzelzceļa avārijas izmeklēšanas pabeigšanas tika izdoti 4 drošības ieteikumi, kuri tika adresēti dzelzceļa infrastruktūras pārvaldītājam un dzelzceļa infrastruktūras remonta un būvniecības komercuzņēmumam.

Visi Biroja izdotie drošības ieteikumi ir ņemti vērā un ieviesti.

Preface to report

Serious railway traffic accidents and other accidents in the Republic of Latvia are being investigated by the Transport Accident and Incident Investigation Bureau (hereinafter – the Bureau).

The report contains information regarding the work of the Bureau in rail accident investigation, cooperation between the Bureau and other institutions and completed investigations in 2010.

In 2010 the Bureau finished the investigation of one accident. As a result of said accident, train traffic was discontinued for almost eight hours. There were no fatalities or injured persons in this accident.

Four safety recommendations were submitted after the investigation of the accident; these recommendations were addressed to the infrastructure manager and railway Maintenance Company.

All recommendations issued by the Bureau have been taken into account and implemented.

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1. INTRODUCTORY PART

1.1. Legal Basis

The requirements of the Railway Safety Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004, regarding the establishment of an independent body for the investigation of railway accidents were applied on 30 April 2006, via amendments to the Railway Act, which provided for the functions and tasks of the body for the investigation of serious railway accidents and the criteria for serious railway accidents and other accidents. The function of the investigation of serious railway accidents was assigned to the Transport Accident and Incident Investigation Bureau, wherein the Railway Accident Investigation Department was established.

In order to fully apply the requirements of the *Railway Safety Directive* and ensure implementation of the Railway Act regarding the independent body for the investigation of railway accidents, amendments were made on 27 March 2007 to the Cabinet of Ministers Regulations No 393 of 6 October 1998, "Procedures for the Investigation of Railway Traffic Accidents", and new Cabinet of Ministers Regulations No 999, "Procedures for the Classification, Investigation and Recording of Railway Traffic Accidents", was issued on 26 October 2010.

Pursuant to the requirements laid down in Article 21 of the *Railway Safety Directive*, the Bureau has been established as a body that is organisationally, legally and in the taking of its decisions independent from the railway infrastructure manager, railway undertaking and railway technical operations control and supervision institutions, as well as from institutions responsible for the specification and collection of railway infrastructure fees, the allocation of railway infrastructure capacity or the realisation of State administration in the field of railway transport, and from persons whose interests may be in contradiction with the tasks of the Bureau. The Bureau employs two investigators who are able to perform the function of investigator-in-charge in the event of a serious railway accident or a serious incident.

1.2. Authority, Role and Purpose of the Bureau

The purpose of the Bureau is to implement public administration functions in the field of investigation of serious railway accidents and other railway accidents, as well as in the field of investigation of serious civil aircraft accidents and incidents.

The operations of the Bureau are organised pursuant to Annex 13 of the Convention on International Civil Aviation of 7 December 1944, European Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents, Railway Safety Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004, Law on Aviation, Railway Act, Cabinet of Ministers Regulations No 973 of 20 December 2005, "By-laws of the Transport Accident and Incident Investigation Bureau", Cabinet of Ministers Regulations No 660 of 25 November 2003, "Regulations regarding the Investigation of Aviation Accidents and Incidents", and Cabinet of Ministers Regulations No 999 of 26 October 2010, "Procedures for the Classification, Investigation and Recording of Railway Traffic Accidents".

Pursuant to the laws and regulations of the Republic of Latvia, the Bureau must investigate serious railway accidents and any railway traffic accidents, after which the railway rolling stock is to be removed from the rolling stock inventory. The Bureau may make a decision on any railway traffic accidents as well as the investigation of other accidents related to the movement of trains if they have an adverse impact on the safety of movement.

The purpose of the Railway Accident Investigation Department is to conduct independent investigation of serious railway accidents and serious incidents to determine the causes of the accidents and offer recommendations with a view to preventing the recurrence of similar accidents in the future.

The Bureau performs investigations independently from the investigations performed by law enforcement institutions, without determining the fault or responsibility of a person.

1.3. Organisation

The Bureau has a permanent staff of eight personnel. The Railway Accident Investigation Department has a permanent staff of two personnel: the head of the department and an investigator. The structure of the Bureau is presented in Figure 1.

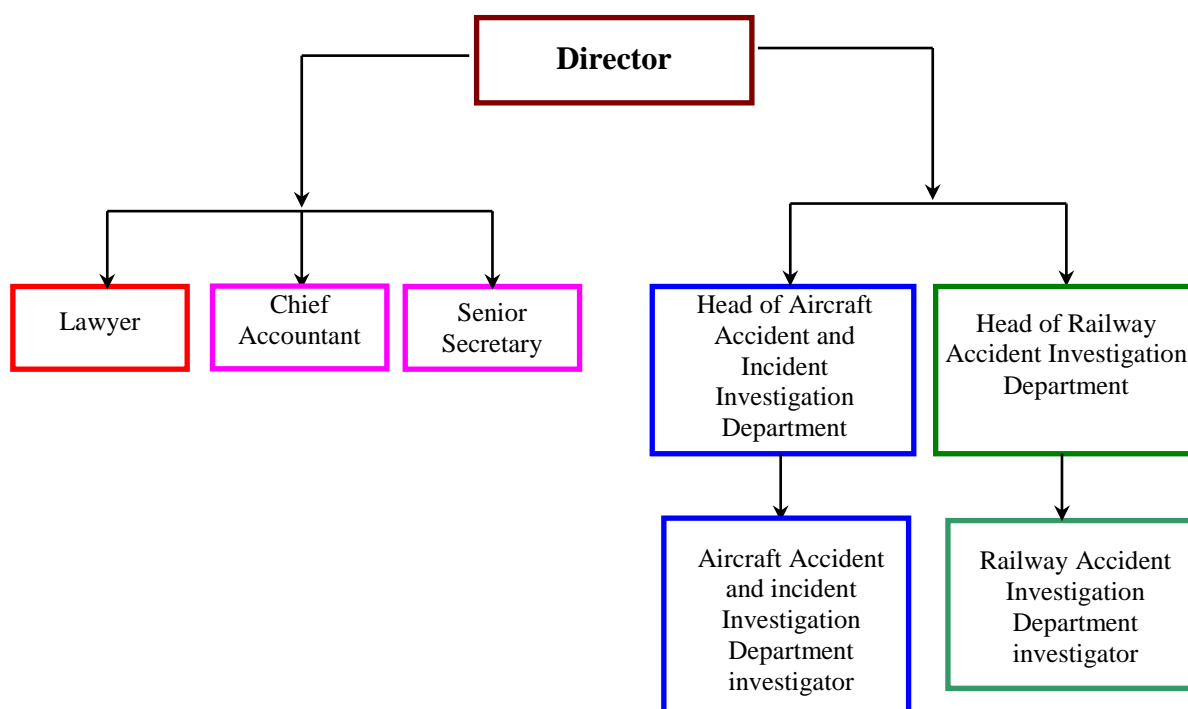


Fig. 1. Schematic Structure of the Bureau

The budget of the Bureau in 2010 was EUR 315,400 (LVL 221,679), including the budget of the Railway Department of EUR 164,400 (LVL 115,589).

The Bureau makes a decision on commencing an investigation based on the laws and regulations of the Republic of Latvia. Pursuant to these laws and regulations, the Bureau must investigate serious railway accidents and incidents. The Bureau makes a decision on the investigation of other accidents after collating and analysing information about the accident

and assessing the impact thereof on the general safety of railway traffic. Before taking a decision, the Bureau may co-operate with the State Railway Technical Inspectorate, infrastructure manager, railway undertakings and railway maintenance companies. However, in any event, the decision on commencing investigation is made independently of any of the said institutions and companies.

The investigation is supervised by the director of the Bureau. The Director of the Bureau assigns the investigation of a given railway accident to an investigator in charge, who is responsible for the organisation, performance and control of the investigative activities.

The investigator in charge may request the assistance of independent experts, for instance experts from the Institute of Railway Transport of the Riga Technical University, to carry out technical evaluations and present calculations necessary for determining the cause of the accident.

The final report following the investigation is signed by the person in charge of the investigation and all the other participants in the investigation. Should there be disagreements about the contents of the report, the final report is drawn up per the instructions of the person in charge of the investigation. Participants in the investigation who disagree with the final report sign the report and additionally note that they have a different opinion, and justify their opinion. The date on which the final report is signed is considered the day of completion of the investigation.

1.4. Organisational Structure

The Minister for Transport supervises the work of the Bureau. For the purpose of investigation, the Bureau co-operates with the infrastructure manager, railway undertakings and railway maintenance companies. The Bureau co-operates with the State Railway Technical Inspectorate for harmonisation of the timeframe for implementation of safety recommendations. The co-operation of the Bureau with other bodies and institutions is presented in Figure 2.

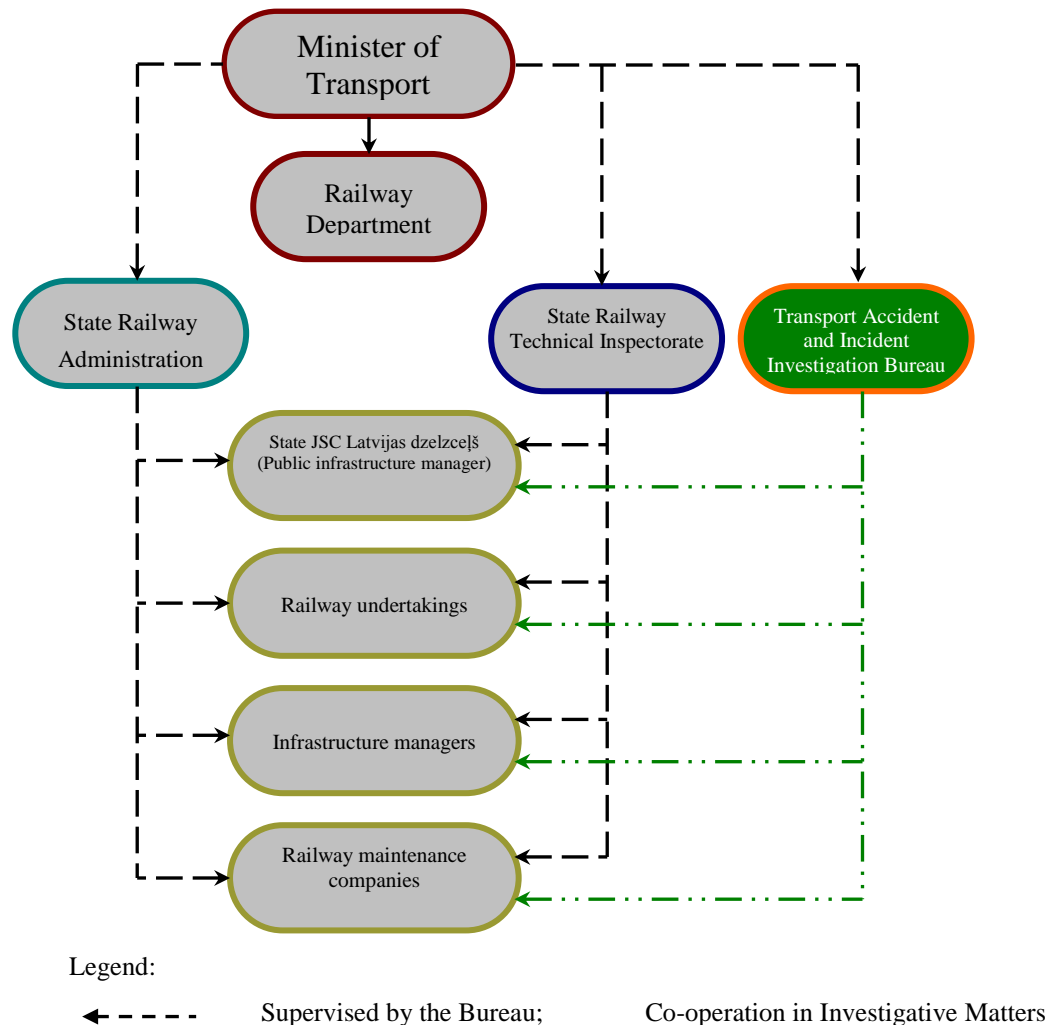


Fig. 2. Diagram of Co-operation with Other Institutions

2. INVESTIGATIVE PROCESS

2.1. Accidents Subject to Investigation

The investigation process is regulated by Cabinet of Ministers Regulation No 999 of 26 October 2010, "Procedures for the Classification, Investigation and Recording of Railway Traffic Accidents".

Pursuant to this regulation, serious railway accidents and any railway traffic accidents, after which the railway rolling stock is removed from the rolling stock inventory, are investigated by the Bureau.

A serious railway accident is a collision of a train with other railway rolling stock or derailment that has caused one of the following harmful consequences:

- At least one person has died instantly or has died as a result of the serious accident within 30 days thereafter;
- Serious injuries have been caused to at least five people who have been hospitalised for more than 24 hours due to the accident;

- Damage has been caused to the rolling stock, railway infrastructure or the environment in the amount of at least EUR 2,000,000 according to the foreign exchange rate determined by the Bank of Latvia on the day when the railway traffic accident took place.

A significant accident is an unwanted or unintended sudden event, in which at least one rolling stock in motion is involved with a speed which exceeds 0 km/h, or a specific chain of events with one of the following harmful consequences:

- A person has died or dies within 30 days of the significant accident;
- Serious injuries have been caused to a person, due to which he or she has been hospitalised for more than 24 hours;
- Damage has been caused to the rolling stock, the rail track or other equipment or damage has been caused to the environment which is equivalent to EUR 150,000 or more according to the foreign exchange rate determined by the Bank of Latvia on the day when the significant railway traffic accident took place;
- The movement of trains along the main rail track has been suspended for six hours or more.

The Bureau may make a decision on investigation of a railway traffic accident, as well as the investigation of other accidents related to the movement of trains if they have an adverse impact on the safety of movement.

2.2. Institutions Involved in Investigation

The bodies and institutions involved in investigation are provided for in the Railway Act and the Cabinet of Ministers Regulations No 999 of 26 October 2010, "Procedures for the Classification, Investigation and Recording of Railway Traffic Accidents".

Pursuant to this regulation, serious railway accidents and incidents are investigated by the Bureau.

Representatives from the State Railway Technical Inspectorate, the railway infrastructure manager and the railway undertaking may be involved in the investigation of railway accidents.

Depending on the nature of an accident, the Bureau may invite competent specialists who are not employees of the Bureau to participate in the investigation of the accident, as well as representatives of an investigation body of another European Union Member State, if the railway undertaking, which is registered and licensed in the relevant Member State, is involved in the accident.

The Bureau may request the assistance of investigation bodies of other European Union Member States or the European Railway Agency in order to receive the opinions or assessments of experts or to perform technical inspections or analyses.

During the investigation of accidents, the Bureau harmonises its activities with representatives of the prosecutor's office or the police.

2.3. Investigative Process

The investigation is the collection of information regarding the circumstances and consequences of a railway traffic accident, the analysis thereof and the drawing of conclusions.

On a daily basis, the investigators of the Bureau receive daily information about all railway traffic safety incidents by e-mail from the infrastructure manager. The infrastructure manager immediately notifies the Bureau personnel by telephone about serious railway accidents and incidents. After receiving a report about an accident, the investigators of the Bureau arrive at the scene and immediately commence an investigation of the accident. The diagram of the investigative process is presented in Figure 3.

Within seven days after commencement of the investigation, the Bureau informs the European Railway Agency thereof, the State Railway Technical Inspectorate, the Railway Police, the railway infrastructure manager and the railway undertaking involved in the railway traffic accident.

On a regular basis, the Bureau informs the State Railway Technical Inspectorate, the railway infrastructure manager and the railway undertaking involved in the railway traffic accident, the persons who have sustained injuries in the accident and their relatives, the owners and producers of the damaged property, the relevant emergency services, personnel and user representatives about the process of the investigation of the accident and, where possible, gives them an opportunity to present their conclusions and opinions, as well as comments, about the information provided in the draft reports.



Fig. 3. Investigative Process

3. INVESTIGATION

3.1. Number of Investigations Completed, Determining Key Trends

Type of Accident	Number of Accidents	Number of Casualties		Material Damage EUR (Approximate)	Trends as Compared with Preceding Years
		Fatalities	Seriously Injured		
Collisions	1	-	-	210,000	Decreasing
Derailment	-	-	-	-	-
Other	-	-	-	-	-

3.2. Investigations Completed and Commenced in 2010

Investigations Completed in 2010

Date of Accident	Name of Investigation (Type and Place of Accident)	Legal Basis	Completed (Date)
16 December 2009	Collision of a freight train with breakdown crane KDE (accident, Indra – state border rail section)	i ii	13 August 2010

Basis for investigation: i = pursuant to the Railway Safety Directive, ii = pursuant to national laws and regulations (including areas mentioned in Article 2(2) of the Railway Safety Directive), iii = voluntarily – other criteria (national laws and regulations/requirement not included in the Railway Safety Directive).

Investigations Commenced in 2010

Date of Accident	Name of Investigation (Type and Place of Accident)	Legal Basis
-	-	-

3.3. Research (or Expert Opinions) Commissioned and Completed in 2010

Research Completed in 2010

Commissioning Date	Name of Investigation (Type and Place of Accident)	Legal Basis	Completed (Date)
-	-	-	-

Researches Commissioned in 2010

Commissioning Date	Name of Investigation (Type and Place of Accident)	Legal Basis
-	-	-

3.4. Summary of Investigations Completed in 2010

Railway section Indra – state border 16.12.2009.



The accident occurred on 16 December 2009 at 12:20 p.m. at milepost 2 of the 466th kilometre of the Indra – state border railway section.

A breakdown crane of the business firm Transceltnieks Ltd. was unloading and installing stair flights where a new rail track was being built. Some parts of the crane extended past rolling stock dimensions towards the adjoining track. The construction site was not roped off and no signallers were posted, which is why no one took any notice of a freight train approaching down the adjoining track.

The train operator noticed that the crane was over-dimensioned and applied the emergency brake. However, the distance to the crane was too small and it was impossible to avoid a collision.

As a result of the collision, the breakdown crane was damaged beyond repair. The locomotive of the diesel train and seven empty tank cars were damaged. The main track and the 1st track under construction sustained slight damage, as did a speeder and an escort flatcar.

No damage to the environment was caused because the tank cars were empty and the fuel tanks of the locomotive and the crane were not damaged.

No one was killed or injured in the accident.

The consequences of the accident were liquidated by the State Joint Stock Company Latvijas dzelzceļš – the infrastructure manager deployed a breakdown train to do this. Train traffic was interrupted for almost eight hours.

The direct cause of the accident was that the business firm Transceltnieks Ltd. had not roped off the site and had not posted signallers, as a result of which the freight train collided with the breakdown crane.

The following underlying causes were established during the investigation:

- Business firm Transceltnieks Ltd. employees who drew up and submitted the application for the construction of the new track had not planned for the necessary safety measures on the construction site;
- Train operators had not been warned about the presence of a breakdown crane building a new track near the main track, and train operators were used to the lengthy construction works taking place in the area, which is why the given train operator was not alert;

- The business firm Transceltnieks Ltd. manager of the construction project had not warned the infrastructure manager's track supervisor about the commencement of construction work on the given section of the railroad track.

The following root causes were established during the investigation:

- The planning and observance of safety requirements, regular supervision of work schedule planning and implementation, provided for in the existing internal system of the business firm Transceltnieks Ltd. for traffic safety monitoring, are not adhered to;
- The laws and regulations do not oblige the infrastructure manager's stationmaster to notify the infrastructure manager's track supervisor if third parties commence construction or maintenance works on a railway section.

3.5. Commentaries and Brief Description of Investigation

Investigations Commenced and Discontinued in 2010

Date of Accident	Name of Investigation (Type and Place of Accident)	Legal Basis	Reason for Discontinuation or Postponement of Investigation	Who, Why, When (Decision)
-	-	-	-	-

3.6. Serious Railway Accidents and Other Accidents Investigated in 2006-2010

Railway Accidents Investigated in 2006-2010

Investigated Accidents		2006	2007 ¹	2008	2009	2010	Total
Serious railway accidents and other accidents (Article 19, 1 + 2)	Train collision	-	-	1	1	1	3
							0
							0
							0
							0
							0
							0
Total							3

¹ The Bureau commenced work on the investigation of railway accidents in 2007.

4. RECOMMENDATIONS

4.1. Brief Summary and Introduction to Recommendations

The laws and regulations of the Republic of Latvia (Cabinet of Ministers Regulation No 999 of 26 October 2010, “Procedures for the Classification, Investigation and Recording of Railway Traffic Accidents”) provide that, in order to prevent the causes and circumstances of a serious railway accident or a significant accident, as well as to guarantee the railway traffic safety, the Bureau formulate safety recommendations based on the conclusions drawn during the investigation

The presumption of guilt or liability of a person in relation to a railway traffic accident is not established in the safety recommendations.

The Bureau sends the safety recommendations to the State Railway Technical Inspectorate, indicating the final implementer of the safety recommendations as well as in respective cases – to institutions that were involved in the works for liquidation of the consequences of the railway traffic accident. The State Railway Technical Inspectorate evaluates whether it is necessary to widen the circle of final implementers of the safety recommendations and, if necessary, also sends the safety recommendations to other companies of the railway sector.

If necessary, the Bureau may send the safety recommendations to the railway safety institutions of another Member State.

The State Railway Technical Inspectorate monitors the implementation of the safety recommendations.

Institutions to which the safety recommendations are addressed, after coordination with the State Railway Technical Inspectorate, may also perform other measures to achieve the targets referred to in the safety recommendations.

The railway infrastructure manager, the railway undertaking and other companies of the railway sector, which are the final implementers of the safety recommendations, notify the State Railway Technical Inspectorate at least once a year of performed or planned measures in relation to the safety recommendations.

Recommendations Implemented in 2007-2010

Recommendations Issued		Status of Implementation of Recommendations					
		Implemented		Being Implemented		Not Implemented	
Year	Number	Number	[%]	Number	[%]	Number	[%]
2007	0	0	0	0	0	0	0
2008	8	7	87.5	1	12.5	0	0
2009	4	0	0	4	100	0	0
2010	4	9	225	0	0	0	0
Total	16	16	100	0	0	0	0.0

4.2. Safety Recommendations Issued in 2010

After the 16.12.2010 accident at milepost 2 of the 466th kilometre of the Indra – state border railway section, four safety recommendations were issued to the railway infrastructure manager and the railway maintenance company. The recommendations and the implementation thereof are provided for in the Appendix.

The purpose of the recommendations was to improve train traffic safety during railway infrastructure maintenance works.

Recommendation 2010-1

The business firm Transceltnieks Ltd. must examine whether its internal system for traffic safety monitoring is efficient and whether the procedures therein ensure that the relevant safety requirements are being observed and make sure that they are, in order to guarantee the safety of the operations of the firm, monitor the implementation of work assigned to the workers of the firm, perform internal audits and document the findings thereof, as well as organise technical training or qualification courses for its workers on a regular basis.

Recommendation 2010-2

The infrastructure manager –State Joint Stock Company Latvijas dzelzceļš – must introduce the necessary requirements (criteria) on railway maintenance and construction applications, which are necessary so as to ensure that the applications for technological breaks conform with safety requirements.

Recommendation 2010-3

The infrastructure manager – State Joint Stock Company Latvijas dzelzceļš – must provide in its internal regulations that the infrastructure manager's station master has a duty to inform the infrastructure manager's track supervisor about the commencement of works by third parties at the station or on railway tracks in between stations.

Recommendation 2010-4

The infrastructure manager –State Joint Stock Company Latvijas dzelzceļš – and the chief contractor – LDZ infrastruktūra Ltd. – must provide in the railway maintenance and construction contracts that the infrastructure manager and chief contractor have to supervise how subcontractors observe train traffic safety requirements during railway maintenance and construction works.

Recommendations

Date and time:		16 December 2009, 12.20 p.m.	
Place:		Milepost 2 of the 466th kilometre of Indra – state border railway section	
Type of accident:		Collision of freight train with breakdown crane; railway accident	
Train type and number:		Breakdown train No 5902/5901, Breakdown crane KDE-163 No 4617 Freight train No 2824, 66 empty tank cars, diesel locomotive 2TE10UK No 082	
Motor vehicles:		-	
		In the Train	In the Motor Vehicles
Number of people:	Crew:	2	-
	Passengers:	-	-
Fatalities:	Crew:	-	-
	Passengers:	-	-
Seriously injured:	Crew:	-	-
	Passengers:	-	-
Lightly injured:	Crew:	-	-
	Passengers:	-	-
Damage to rolling stock:		Breakdown crane KDE-163 No 4617 damaged beyond repair	
Damage to railway infrastructure:		Main track and 1st track under construction sustained slight damage at the scene of the accident	
Other damage:		-	
Summary: During Transceltnieks Ltd. crew’s construction of the 1st track, freight train No 2824 collided with the over-dimensioned breakdown crane of the breakdown train No 5902/01. At the moment of collision, the breakdown crane was operational and no signallers had been posted who would have been responsible for warning the crew about the approaching trains.			
Final report issued:		13 August 2010	
Recommendation 2010-1	In order to improve the internal system for traffic safety monitoring		
	Business firm Transceltnieks Ltd. must examine whether its internal system for traffic safety monitoring is efficient and whether the procedures therein ensure that the relevant safety requirements are being observed, and make sure that they are, in order to guarantee safety of the operations of the firm, monitor implementation of work assigned to the workers of the firm, perform internal audits and document the findings thereof, as well as organize technical training or qualification courses for its workers on a regular basis		
Date	Status	Commentaries	
14.09.2010	Implemented	Business firm Transceltnieks Ltd. has accepted and implemented the recommendation	
Recommendation 2010-2	In order to ensure that applications for technological breaks conform with safety requirements		



	The infrastructure manager –State Joint Stock Company Latvijas dzelzceļš – must introduce the necessary requirements (criteria) on railway maintenance and construction applications, which are necessary so as to ensure that the applications for technological breaks conform with safety requirements	
<i>Date</i>	<i>Status</i>	<i>Commentaries</i>
01.11.2010	Implemented	The infrastructure manager has accepted the recommendation and implemented it in November 2010
<i>Recommendation 2010-3</i>	<p>In order to improve important information exchange among workers of the infrastructure manager</p> <p>The infrastructure manager –State Joint Stock Company Latvijas dzelzceļš – must provide in its internal regulations that the infrastructure manager’s station master has a duty to inform the infrastructure manager’s track supervisor about the commencement of works by third parties at the station or on railway tracks in between stations</p>	
<i>Date</i>	<i>Status</i>	<i>Commentaries</i>
01.11.2010	Implemented	The infrastructure manager has accepted the recommendation and implemented it in November 2010
<i>Recommendation 2010-4</i>	<p>In order to improve observation of traffic safety during maintenance works</p> <p>The infrastructure manager – the State Joint Stock Company Latvijas dzelzceļš – and the chief contractor – LDZ infrastruktūra Ltd. – must provide in the railway maintenance and construction contracts that the infrastructure manager and chief contractor have to supervise how subcontractors observe train traffic safety requirements during railway maintenance and construction works</p>	
<i>Date</i>	<i>Status</i>	<i>Commentaries</i>
01.11.2010	Implemented	The infrastructure manager has accepted the recommendation and implemented it in November 2010