



DEPARTMENT OF RAILWAY SAFETY OF GREECE

ANNUAL SAFETY REPORT FOR THE YEAR 2009

Athens, September 2010

Content

| | |
|--|-----------|
| A. GENERAL INFORMATION..... | 3 |
| A.1. SCOPE OF THE REPORT | 3 |
| A.2. SUMMARY IN ENGLISH | 3 |
| B. INTRODUCTORY SECTION..... | 3 |
| B.1. INTRODUCTION TO THE REPORT..... | 3 |
| B.2. RAILWAY STRUCTURE INFORMATION (ANNEX A)..... | 4 |
| B.3. SUMMARY – GENERAL TREND ANALYSIS | 4 |
| C. ORGANISATION | 4 |
| C.1. INTRODUCTION TO THE ORGANISATION..... | 4 |
| C.2. THE ORGANISATIONAL FLOW | 6 |
| D. THE DEVELOPMENT OF RAILWAY SAFETY | 6 |
| D.1. INITIATIVES TO MAINTAIN/IMPROVE SAFETY PERFORMANCES | 6 |
| D.2. DETAILED DATA TREND ANALYSIS | 7 |
| D.3. RESULTS OF SAFETY RECOMMENDATIONS..... | 9 |
| E. IMPORTANT CHANGES IN LEGISLATION AND REGULATION..... | 10 |
| F. THE DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION..... | 11 |
| F.1. NATIONAL LEGISLATION – STARTING DATES – AVAILABILITY | 11 |
| F.2. NUMERICAL DATA (ANNEX E) | 11 |
| F.3. PROCEDURAL ASPECTS | 11 |
| G. SUPERVISION OF RAILWAY UNDERTAKINGS AND INFRASTRUCTURE MANAGERS..... | 12 |
| H. REPORTING ON THE APPLICATION OF CSM ON RISK EVALUATION AND ASSESSMENT... | 13 |
| I. NSA CONCLUSIONS ON THE REPORTING YEAR – PRIORITIES | 13 |
| J. SOURCES OF INFORMATION..... | 14 |

Annex A. Railway Structure Information

Annex B. Organisation Chart(s) of the National Safety Authority

Annex C. CSIs data

Annex D. Important changes in legislation and regulation

Annex E. The development of safety certification and authorisation - Numerical Data.

A. General Information

A.1. Scope of the report

The Annual Report for the year 2009 contains information about the activities of the National Safety Authority concerning the preceding year and the situation of the railway transport for the reporting year in Greece.

The information given through this Report has the purpose to fulfill the requirements of Article 18 of Safety Directive and to inform the different actors in the railway field on Member State level, as well as the other NSAs.

The Report has been produced in accordance with the Template “Structure for the content of the NSA Annual safety Report “, version 14, date 25/08/2009 and was written by the Department of Railway Safety.

A.2. Summary in English

All text is in English.

B. Introductory Section

B.1. Introduction to the report

According to Article 18 of the Safety Directive the Report contains information on:

- (a) the development of railway safety, including an aggregation at Member State's level of the CSIs laid down in Annex I.
- (b) important changes in legislation and regulation concerning railway safety.
- (c) the development of safety certification and safety authorisation.

The Report interests the infrastructure manager, the present and future railway undertakings and the other European national safety authorities as well.

The data provided for the CSIs respects the format of those laid down in Annex I of the SD. Nevertheless the data provided in the fields under heading 3 “Indicators relating to consequences of accidents” are incomplete due to the lack of previous procedures in estimating some economic aspects of the accidents.

Moreover, data provided in the fields under heading 2 and heading 4 are collected following internal procedures of the infrastructure manager applying its definitions.

B.2. Railway Structure Information (Annex A)

Annex A.1 contains the Network map, as presented in the Infrastructure Manager’s Network Statement 2007, with some modifications. The railway network is separated in three different Regions. The Region of Athens, Peloponnesus and Macedonia-Thrace.

Annex A.2 contains the list with the RU and IM in service in the country.

B.3. Summary – General trend analysis

A general trend is not identified.

C. Organisation

C.1. Introduction to the organisation

The *Department of Railway Safety (NSA)* has been established in the Ministry of Infrastructure, Transport and Networks* according to the presidential decree 160 (Official Gazette of the Hellenic Republic A’ 201/23.08.2007), article 15, under the Directorate for Freight Transport of the Ministry. The department has been assigned the exercise of the duties of the National Safety Authority of the Safety Directive 2004/49/EC. These duties are defined in article 2 of the presidential decree 186 (Official Gazette of the Hellenic Republic A’ 221/12.09.2007) and specifically are:

* The Ministry of Transport and Communications was incorporated into the Ministry of Infrastructure, Transport and Networks on October 7th of 2009.

- a. The documentation and follow-up of the developments in the sector of technical certification in Greek, European and international environment, the elaboration of policy and measures and the exercise of the relevant regulating competence of state, in the sector of safety of railway transport of dangerous goods.
- b. The collaboration in Greek, European and international level in the sector of technical certification, the providing of information and the representation of Ministry in the corresponding organisations, the conduct of negotiations and the processing of agreements in European, international and inter-country level regarding the vehicles of transport of dangerous goods
- c. The elaboration of legal framework of exercising the regulating competence of state in the sector of railway safety and control of railway transports of dangerous goods
- d. Authorising the bringing into service of the structural subsystems constituting the trans-European high-speed rail system according to the existing legislation and the checking if they are operated and maintained in compliance with the relevant essential requirements,
- e. Authorising the bringing into service of the structural subsystems constituting the trans-European conventional rail system according to the existing legislation and the checking if they are operated and maintained in compliance with the relevant essential requirements,
- f. Supervising that the interoperability constituents are in compliance with the essential requirements as required by the existing legislation.
- g. Authorising the bringing into service of new and substantially altered rolling stock that is not yet covered by a TSI.
- h. The issue, renewal, amendments and revocation of relevant parts of safety certificates and of safety authorisations and checking that conditions and requirements laid down in them are met and that infrastructure managers and railway undertakings are operating under the requirements of Community or national law.
- i. Keep and update the national vehicle register and the registers of infrastructure of the railway system.
- j. Gathering of information from the infrastructure manager and railway undertakings in order to calculate the common safety indicators.
- k. The proposal to the Minister of Infrastructure, Transport and Networks for issuing new national safety rules

- l. The proposal to the Minister of Infrastructure, Transport and Networks for the modification of the existing national safety rules notified to the European Commission
- m. Issuing of safety certificates to railway undertakings and safety authorisations of infrastructure manager
- n. The publication of the annual safety report,
- o. Exchange of information and experiences with the other National Safety Authorities of European Union with the aim of the harmonisation of the criteria used for decision-making
- p. Cooperation with the National Investigation Body of railway accidents.

Concisely, the Department of Railway Safety observes railway safety and its continuous improvement, as well as of the obligations that derive from the Interoperability Directive, taking into consideration the development of Community legislation, as well as the technical and scientific progress.

More information on the Department and its tasks can be retrieved from the link:

<http://www.yme.gov.gr/index.php?getwhat=1&oid=852&id=&tid=867>

C.2. The Organisational flow

The relationship (diagram) between the NSA and the other national bodies (such as the National Investigation Body, National Regulatory Body, and Ministry of Infrastructure etc.) has been provided in *Annex B.1*.

D. The development of railway safety

D.1. Initiatives to maintain/improve safety performances

The Department of Railway Safety was established on August 23rd 2007. A Working Group consisted of employees from the National Safety Authority and the Infrastructure Manager, was established in 2007 for the enhancement of the cooperation between the different players of the railway sector. The purpose of the Working Group was to support the definition of the requirements stated in the SD 2004/49/EC and the obligations derived, to harmonize national law with the Directive 2007/59/EC on the certification of train drivers operating locomotives and trains on the railway system in the

Community , to analyze the existing legal framework, to classify the national rules and regulations according to the provisions of Annex II of the SD and specify the lack of measures for the improvement of safety performance. This group put a lot of effort into updating the type 3 of the national safety rules of the Annex II *“Rules concerning requirements for the authorisation of placing in service and maintenance of new and substantially altered rolling stock, including rules for exchange of rolling stock between Railway Undertakings, registration systems and requirements on testing procedures”*.

Table D.1.1 - Safety measures triggered by accidents/precursors to these:

| Accidents/precursors which triggered the measure | | | Safety measure decided |
|--|-------|--------------------------|------------------------|
| Date | Place | Description of the event | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Table D.1.2 - Safety measures (or voluntary measures) with other triggers than accidents/precursors:

| Description of the area of concern | Description of the trigger | Safety measure decided |
|------------------------------------|----------------------------|------------------------|
| | | |
| | | |
| | | |

D.2. Detailed data trend analysis

Taking into account the CSIs reported in 2006, 2007 and 2008 the following trend analysis was conducted:

Table D.2.1 - Number of accidents:

| 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|
| 70 | 53 | 40 | 34 |

The total number of accidents occurred in 2009 including all types of accident, was reduced to 34 from 70 reported in 2006 (a 51.4 % reduction)

Table D.2.2 - Number of fatalities:

| 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|
| 39 | 18 | 17 | 22 |

For the time period 2006-2009, we had a reduction of persons killed from 39 reported in 2006 to 22 in 2009 (a 43.6% reduction)

Table D.2.3 - Number of injures:

| 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|
| 51 | 36 | 29 | 22 |

The total number of injures occurred in 2009 including all categories of people, was reduced from 51 reported in 2006 to 22 reported in 2009 (a 56.9 % reduction).

Table D.2.4 - Number of precursors to accidents:

| 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|
| 1 | 271 | 335 | 266 |

It is not possible to compare the data extracted from the specific category, as the previous years were not collected from all the sub categories.

Table D.2.5 - Cost of all accidents, hours worked on safety:

| 2006 | 2007 | 2008 | 2009 |
|-------|------|-------|------|
| 95312 | 5840 | 95104 | 7232 |

The only data which can be compared in the specific category is the total number of working hours of staff and contractors lost as a consequence of accidents in which we have a decrease from 95312 reported in 2006 to 7232 reported in 2009.

Table D.2.6 - Technical safety of infrastructure and its implementation, management of safety:

| 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|
| 1270 | 1265 | 1265 | 1305 |

The number of level crossings reported this year increased, due to the fact that the infrastructure manager included in the definition the passages of people and animals as well, which are also recognized as level crossings. The safety management system of the Infrastructure Manager and the Railway Undertakings has not been approved, so we have not any audits to be conducted in 2009.

We should clarify that the missing data “Costs of deaths” and “Costs of Injuries” have not been provided, similar to the previous years, due to the fact that, they are calculated according to the methodology used by the RUs/IMs. The problem is that in the situation in which the railway undertaking should pay compensation due to an accident, the amount of it can be defined only after a legal examination, which lasts some years, so any calculation could be based only on assumptions. Relating to the “Costs of delays, disturbances and re-routing of traffic, including extra costs for staff and loss of future revenue” we should clarify that the value reported includes only the extra costs for staff. Generally the methodology used takes into account the costs born by the RUs/IMs.

The above-mentioned data have been provided in *Annex C* according to the definitions of Annex I of the Safety Directive.

D.3. Results of safety recommendations

The National Investigation Body is not operational in our country, so there is not any safety recommendation issued.

E. Important changes in legislation and regulation

- The Safety Directive was transposed into national law with the Presidential Decree 160 (Official Gazette of the Hellenic Republic A' 201/23.08.2007). The P.D provides the essential amendments in the national legislation for the harmonisation to the EU requirements. The responsibilities of the railway players as the Infrastructure Manager, Railway Undertakings, Ministry of Infrastructure, Transport and Networks, National Safety Authority, Investigation Body and Notified Body are precisely defined.
- The National Safety Authority of Greece was constituted with the Presidential Decree 186/2007 (Official Gazette of the Hellenic Republic 221/A'/12.9.2007) as a separate Department of the Directorate for Freight Transport. The P.D defines the tasks of the Department of Railway Safety.
- The authorisation for defining the penalties in the ministerial decision AS.4.2/oik.26697/2422 (article 32 of Safety Directive 2004/49/EC) has been given by the article 27 of the national law 3534 (Official Gazette of the Hellenic Republic A' 40/23.02.2007).
- The Ministerial Decision AS10/11249/1018 (Official Gazette of the Hellenic Republic 911/B'/19-5-08) amended the previous Ministerial Decision F4/oik.27887/2166 (Official Gazette of the Hellenic Republic 643/B'/23.5.06) in order to update the type 3 of the national safety rules (Annex II) of the SD.
- The process of the safety certification of railway undertakings and the safety authorization of the infrastructure manager has been defined in the Decision AS.4.2/oik.26697/2422 (Official Gazette of the Hellenic Republic B' 986/22.05.2009) of the Minister of Transport and Communications, whose issuance was foreseen in articles 10 and 11 of the presidential decree 160 (Official Gazette of the Hellenic Republic A' 201/23.08.2007). This process falls into type 2 rules of Annex II according to ERA classification (rules concerning requirements on safety management systems and safety certification of railway undertakings).

F. The development of safety certification and authorisation

F.1. National legislation – starting dates – availability

1.1. Starting date for issuing Safety Certificates according to Article 10 of Directive 2004/49/EC (if necessary, distinguish between Part A and Part B):

The documents required for issuing Safety Certificates to railways undertakings were determined by a Ministerial Decision published by the Ministry of Transport and Communications (AS.4.2/oik.26697/2422 Official Gazette of the Hellenic Republic B' 986/22.05.2009).

1.2. Starting date for issuing Safety Authorisations according to Article 11 of Directive 2004/49/EC:

The documents required for issuing Safety Authorisations to Infrastructure Manager were determined by a Ministerial Decision published by the Ministry of Transport and Communications (AS.4.2/oik.26697/2422 Official Gazette of the Hellenic Republic B' 986/22.05.2009).

1.3. Availability of national safety rules or other relevant national legislation to Railway Undertakings and Infrastructure Managers (website, paper documentation on request, etc.):

National safety rules and other relevant legislation are available to any interested party through the Official Gazette of the Hellenic Republic and on request from NSA, as well as from the link:

<http://www.yme.gov.gr/?getwhat=1&oid=842&id=&tid=856>.

F.2. Numerical data (Annex E)

No safety certificates or authorisations have been issued.

F.3. Procedural aspects

3.1. Safety Certificates Part A

There is no practical experience in the specific field.

3.2. Safety Certificates Part B

There is no practical experience in the specific field.

3.3. Safety Authorisations

There is no practical experience in the specific field.

G. Supervision of Railway Undertakings and Infrastructure Managers

1. Description of the supervision of Railway Undertakings and Infrastructure Managers

1.1. Audits/Inspections/Checklists

No inspections or audits of RUs/IMs were conducted in 2009, since the safety management system has not been approved.

2. Description of the coverage of the legal aspects within the annual reports from the Infrastructure Managers and Railway Undertakings – Availability of the annual reports before 30 June (according to Article 9(4) of the Railway Safety Directive).

The Department of Railway Safety received the Annual Report from the Infrastructure Manager (EDISY S.A) in time.

The Railway Undertaking (TRAINOSE S.A) did not send any Report.

| INSPECTIONS | | Issued Safety Certificates Part A | Issued Safety Certificates Part B | Issued Safety Authorisations | Other Activities (To specify) |
|--|-------------|--|--|------------------------------------|--|
| 3. Number of inspections of RUs/IMs for 20xx | planned | 0 | 0 | 0 | |
| | unplanned | 0 | 0 | 0 | |
| | carried out | 0 | 0 | 0 | |

| AUDITS | | Issued Safety Certificates Part A | Issued Safety Certificates Part B | Issued Safety Authorisations | Other Activities (To specify) |
|--|----------------|--|--|------------------------------------|--|
| 4. Number of audits of RUs/IMs for 20xx | planned | 0 | 0 | 0 | |
| | carried out | 0 | 0 | 0 | |

5. Summary of the relevant corrective measures/actions (amendment, revocation, suspension, important warning, etc.) related to safety aspects following these audits/inspections.

No information available.

6. Short summary/description of the complaints from IM('s) concerning RU('s) related to conditions in their Part A/Part B Certificate.

No information available.

7. Short summary/description of the complaints from RU('s) concerning IM('s) related to conditions in their authorisation.

No information available.

H. Reporting on the application of the CSM on risk evaluation and assessment

No information available.

I. NSA Conclusions on the reporting year – Priorities

The Greek National Safety Authority has originally focused for the year 2009, on the legal actions for the implementation of the provisions of the:

- Directive 2008/110/EC amending Directive 2004/49/EC on safety on the Community's railways,
- Directive 2009/149/EC of 27 November 2009 amending Directive 2004/49/EC as regards Common Safety Indicators and common methods to calculate accident cost,

- Directives 2008/57/EC and 2009/131/EC on the Interoperability of the rail system within the Community and
- Directive 2006/90/EC of 3 November 2006 adapting for the seventh time to technical progress Council Directive 96/49/EC on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail.
- Directive 2007/59/EC on the certification of train drivers operating locomotives and trains on the railway system in the Community,

The rail sector has not yet fully absorbed the requirements set by the Safety Directive, as it is in a period of reconstruction.

The railway undertaking did not submit the annual safety report, according to its obligation provided in the Article 9 of the presidential decree 160 (Official Gazette of the Hellenic Republic A' 201/23.08.2007), which transposed into national law the Safety Directive. The infrastructure manager submitted the Annual Report in time, but without satisfying all the criteria set by paragraph 4 of article 9 of the SD 2004/49/EC.

The priorities of the Department include the enforcement of the Safety Directive requirements, the supervision of the railway sector and the further enhancement of the legal framework. Above all, immediate pressure is going to be exerted upon railway undertaking and infrastructure manager to develop the safety management system foreseen in the Safety Directive, after having completed their corporate reconstruction.

J. Sources of information

1. Annual Report of the Infrastructure Manager Ref. Number 3019640/30-6-2010.

K. Annexes

ANNEX A: Railway Structure Information

ANNEX B: Organisation chart(s) of the National Safety Authority

ANNEX C: CSIs data – Definitions applied

ANNEX D: Important changes in legislation and regulation

ANNEX E: The development of safety certification and authorisation – Numerical Data

ANNEX A. Railway Structure Information

A.1: Network Map 2008.



A.2. List of Railway Undertakings and Infrastructure Managers ¹

A.2.1. Infrastructure Manager

| Name | Address | Website /Network Statement Link | Safety Authorisation (Number/Date) | Start date commercial activity | Total Track Length/Gauge | Electrified Track Length/Voltages | Total Double/Simple Track Length | Total Track Length HSL | ATP equipment used | Number of LC | Number of Signals |
|-------|----------------------------|--|------------------------------------|--------------------------------|---|-----------------------------------|--|--------------------------|--------------------|----------------------|-------------------|
| EDISY | Karolou 1-3 104 37, Athens | www.ose.gr Network Statement: http://www.ose.gr/ose/files/edisy_2007_networkstatement2329.pdf | not granted | 20 December 2005 | 1) 1.435 gauge: 2.298 km ⁽¹⁾⁽³⁾⁽⁴⁾ 2) 1.000 gauge : 699 km ⁽⁴⁾ 3) Combined 1.435/1.000: 30 km 4) 0.75 gauge: 22 km 5) 0.60 gauge: 21 km Total Track Length in use 3.070 km | 264 km 25kv 50Hz | double: 518 km single: 2.034 km Total length of lines in use: 2.552 km | 836 km ⁽¹⁾⁽²⁾ | | 1.305 ⁽⁵⁾ | 1.439 |

(1) Each track of a double track railway line was counted.

(2) Includes lines $v_{\text{κυκλοφ.}} \geq 160$ km/h.

(3) Difference with previous year numbers: 8 km of single line (section Piraeus- Ruf) were upgraded to double track line .

(4) Difference with previous year numbers due to round up.

(5) Increase in the amount of LC from 1265 reported last year to 1305, due to the inclusion of passages of persons and animals in the definition of LCs.

A.2.2. Railway Undertaking

| Name | Address | Website | Safety Certificate 2001/14/EC (Number/Date) | Safety Certificate A-B 2004/49/EC (Number/Date) | Start date commercial activity | Traffic Type (Freight,...) | Number of Locomotives | Number of Railcars/Multiple Unit-sets | Number of Coaches/Wagons | Number of train drivers/safety crew | Volume of passenger transport | Volume of freight transport |
|-----------|----------------------------------|------------------|---|---|--------------------------------|----------------------------|-----------------------|---------------------------------------|--|--|---|---|
| TRAI NOSE | Karolou 1-3 104 37, Athens | www.trainose.com | Not granted | Not granted | 1st of January 2007 | Passenger, Freight | 172* | EMUs 20 DMUs 103 | 372 passenger coaches 3.568 freight wagons | 580 train drivers/ 605 safety crew** | 1.414 (***) passenger x km (in millions) | 3.601 tonnes in thousands 612,224 Tonne-km (in millions) |

(*) 143 Diesel, 29 Electric

(**) On-board staff

Abbreviations:

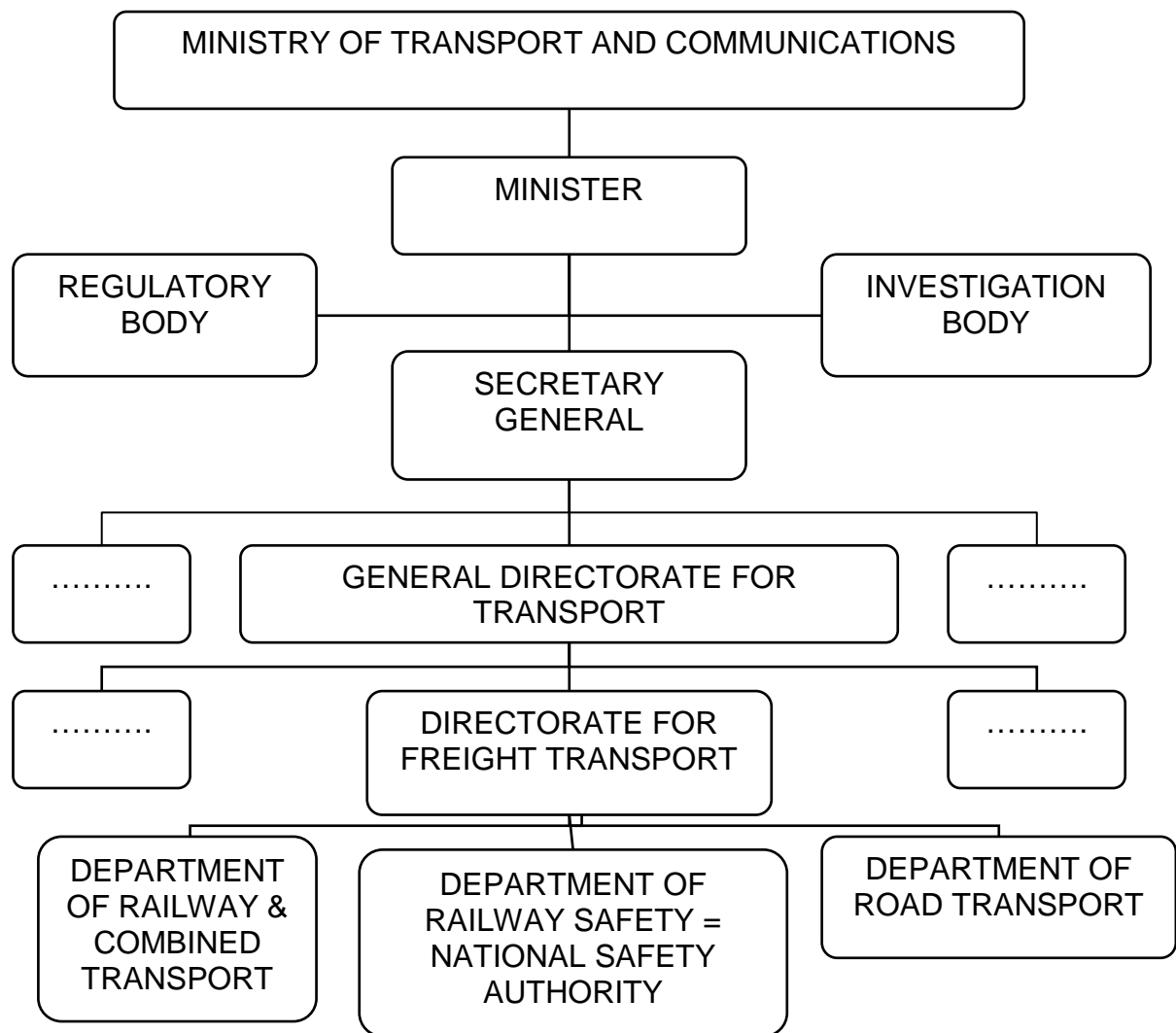
HSL = High Speed Line (Definition acc. Directive 96/48/EC)
It concerns PATHE/P (Patra-Athina-Thessaloniki-Evzoni/Promachonas) axis, excluding parts of the abovementioned axis for which upgrading has not yet been completed.

ATP = Automatic Train Protection

LC = Level Crossing

ANNEX B. Organisation Chart(s) of the National Safety Authority

B. Chart: Internal organisation and Relationship with other National Bodies



Annex C: CSIs data

C.1. CSIs values

Number of accidents and Train*Km

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|------------------|-------------|--------------------------|---|-------------|--------|-------|----------------|
| | Collisions | Derailments | Level crossing accidents | Accidents to persons caused by RS in motion | Fires in RS | Others | Total | |
| 2006 | 4 | 4 | 25 | 35 | 2 | 0 | 70 | 19071 |
| 2007 | 3 | 8 | 22 | 20 | 0 | 0 | 53 | 19905 |
| 2008 | 1 | 2 | 17 | 19 | 1 | 0 | 40 | 21164 |
| 2009 | 2 | 2 | 18 | 11 | 0 | 1 | 34 | 19613 |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Number of accidents/Train*Km

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|------------------|-------------|--------------------------|---|-------------|----------|----------|----------------|
| | Collisions | Derailments | Level crossing accidents | Accidents to persons caused by RS in motion | Fires in RS | Others | Total | |
| 2006 | 2.10E-04 | 2.10E-04 | 1.31E-03 | 1.84E-03 | 1.05E-04 | 0.00E+00 | 3.67E-03 | |
| 2007 | 1.80E-04 | 3.08E-04 | 1.21E-03 | 1.41E-03 | 5.13E-05 | 0.00E+00 | 3.18E-03 | |
| 2008 | 1.33E-04 | 2.33E-04 | 1.09E-03 | 1.23E-03 | 4.99E-05 | 0.00E+00 | 2.71E-03 | |
| 2009 | 1.25E-04 | 2.01E-04 | 1.03E-03 | 1.07E-03 | 3.76E-05 | 1.25E-05 | 2.47E-03 | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

N° of fatalities, Train*Km and Passenger*Km

| Year | Category of persons | | | | | | | Train*Km (MLN) |
|------|---------------------|-----------|----------------------|----------------------|--------|-------|--------------------|----------------|
| | Passengers | Employees | Level crossing users | Unauthorised persons | Others | Total | Passenger*Km (BLN) | |
| 2006 | 3 | 1 | 12 | 22 | 0 | 38 | 1811 | 19071 |
| 2007 | 0 | 0 | 5 | 13 | 0 | 18 | 1930 | 19905 |
| 2008 | 1 | 2 | 6 | 8 | 0 | 17 | 1657 | 21164 |
| 2009 | 0 | 1 | 13 | 8 | 0 | 22 | 1414 | 19613 |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

N° of fatalities/Train*Km and Passenger*Km

| Year | Category of persons | | | | | | | Train*Km (MLN) |
|------|---------------------|------------|-----------|----------------------|----------------------|----------|----------|----------------|
| | Passengers | Passengers | Employees | Level crossing users | Unauthorised persons | Others | Total | |
| 2006 | 1.57E-04 | 1.66E-03 | 5.24E-05 | 6.29E-04 | 1.15E-03 | 0.00E+00 | 1.99E-03 | |
| 2007 | 7.70E-05 | 8.02E-04 | 2.57E-05 | 4.36E-04 | 8.98E-04 | 0.00E+00 | 1.44E-03 | |
| 2008 | 6.65E-05 | 7.41E-04 | 4.99E-05 | 3.82E-04 | 7.15E-04 | 0.00E+00 | 1.21E-03 | |
| 2009 | 5.02E-05 | 5.87E-04 | 5.02E-05 | 4.51E-04 | 6.39E-04 | 0.00E+00 | 1.19E-03 | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

N° of injuries, Train*Km and Passenger*Km

| Year | Category of persons | | | | | | | Train*Km (MLN) |
|------|---------------------|-----------|----------------------|----------------------|--------|-------|--------------------|----------------|
| | Passengers | Employees | Level crossing users | Unauthorised persons | Others | Total | Passenger*Km (BLN) | |
| 2006 | 14 | 7 | 20 | 10 | 0 | 51 | 1811 | 19071 |
| 2007 | 5 | 2 | 22 | 7 | 0 | 36 | 1930 | 19905 |
| 2008 | 9 | 2 | 12 | 6 | 0 | 29 | 1657 | 21164 |
| 2009 | 0 | 3 | 16 | 3 | 0 | 22 | 1414 | 19613 |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

N° of injuries/Train*Km and Passenger*Km

| Year | Category of persons | | | | | | | Train*Km (MLN) |
|------|---------------------|------------|-----------|----------------------|----------------------|----------|----------|----------------|
| | Passengers | Passengers | Employees | Level crossing users | Unauthorised persons | Others | Total | |
| 2006 | 7.34E-04 | 7.73E-03 | 3.67E-04 | 1.05E-03 | 5.24E-04 | 0.00E+00 | 2.67E-03 | |
| 2007 | 4.87E-04 | 5.08E-03 | 2.31E-04 | 1.08E-03 | 4.36E-04 | 0.00E+00 | 2.23E-03 | |
| 2008 | 4.66E-04 | 5.19E-03 | 1.83E-04 | 8.98E-04 | 3.82E-04 | 0.00E+00 | 1.93E-03 | |
| 2009 | 3.51E-04 | 4.11E-03 | 1.78E-04 | 8.78E-04 | 3.26E-04 | 0.00E+00 | 1.73E-03 | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Number of precursors and Train*Km

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|------------------------|-------------------------|--|------------------------------------|---|--|-------|----------------|
| | Number of broken rails | Number of track buckles | Number of wrong-side signalling failures | Number of signals passed at danger | Number of broken wheels on rolling stock in service | Number of broken axles on rolling stock in service | Total | |
| 2006 | | | 0 | 1 | | | 1 | 19071 |
| 2007 | 269 | | 0 | 1 | 0 | 0 | 271 | 19905 |
| 2008 | 223 | 110 | 0 | 1 | 1 | 0 | 335 | 21164 |
| 2009 | 172 | 89 | 0 | 5 | 0 | 0 | 266 | 19613 |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Number of precursors/Train*Km

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|------------------------|-------------------------|--|------------------------------------|---|--|----------|----------------|
| | Number of broken rails | Number of track buckles | Number of wrong-side signalling failures | Number of signals passed at danger | Number of broken wheels on rolling stock in service | Number of broken axles on rolling stock in service | Total | |
| 2006 | | | | 0.00E+00 | 5.24E-05 | | 5.24E-05 | |
| 2007 | 1.38E-02 | | | 0.00E+00 | 5.13E-05 | | 6.89E-03 | |
| 2008 | 1.23E-02 | 5.49E-03 | | 0.00E+00 | 4.98E-05 | | 1.01E-02 | |
| 2009 | 1.11E-02 | 4.99E-03 | | 0.00E+00 | 1.00E-04 | | 1.09E-02 | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Cost of all accidents, safety hours

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|--------------------------|----------------------------|--|----------------------|---|-------------------------------|-------|----------------|
| | Costs of deaths in MLN € | Costs of injuries in MLN € | Costs of delays, disturbances and re-routing of traffic, including extra costs for staff and loss of future revenue in MLN € | Total costs in MLN € | Total number of working hours of staff and contractors lost as a consequence of accidents | Total number of working hours | | |
| 2006 | | | 1933255 | 186148 | 2119403 | 5840 | 15134 | 19071 |
| 2007 | | | 618441 | 1574745 | 2193186 | 95104 | 14608 | 19905 |
| 2008 | | | 1974940 | 147419 | 2122359 | 7232 | 15048 | 21164 |
| 2009 | | | | | | | | 19613 |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Cost of all accidents, safety hours: indicators

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|--------------------------|----------------------------|--|--|----------------------|--|--|----------------|
| | Costs of deaths in MLN € | Costs of injuries in MLN € | Costs of replacement or repair of damaged rolling stock and railway installations in MLN € | Costs of delays, disturbances and re-routing of traffic, including extra costs for staff and loss of future revenue in MLN € | Total costs in MLN € | N° of working hours (MLN) of staff and contractors lost as a consequence of accidents/N° of working hours (MLN) of staff and contractors | | |
| 2006 | | | | | | 594.70% | | |
| 2007 | | | 9.92E+01 | 9.55E+00 | 1.09E+02 | 324.61% | | |
| 2008 | | | 6.36E+01 | 4.39E+01 | 1.08E+02 | 428.80% | | |
| 2009 | | | 7.57E+01 | 3.19E+01 | 1.08E+02 | 334.59% | | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

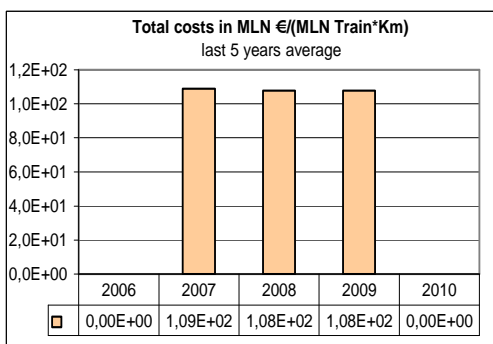
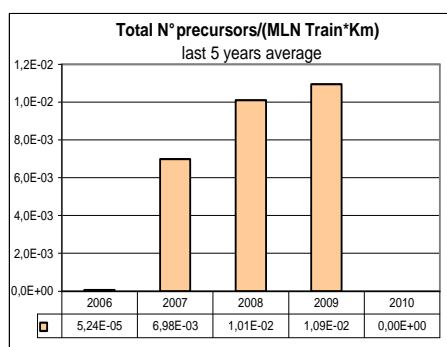
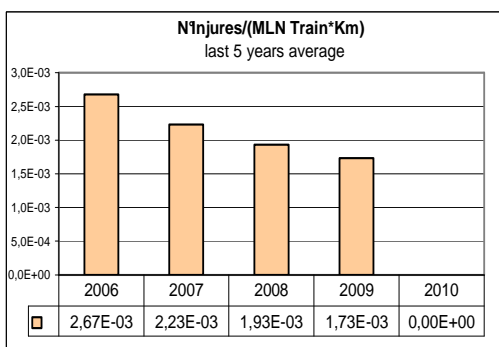
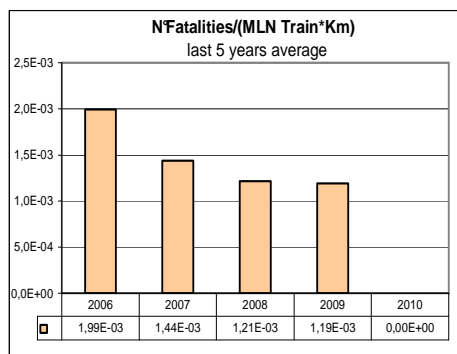
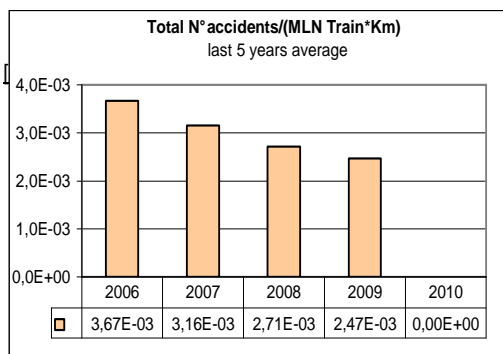
Technical safety of infrastructure and its

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|---|--|---------------------------------|---|--|---|--|----------------|
| | Percentage of tracks with Automatic Train Protection (ATP) in operation | Percentage of Train*Km using operational ATP systems | Total number of level crossings | Number of track Km (double track lines are to be counted twice) | Total number of level crossings per track Km | Percentage of level crossings with automatic or manual protection | N° of audits accomplished / N° of audits required (and/or planned) | |
| 2006 | 0.00% | 0.00% | 1270 | 2997 | 4.24E-01 | 61.00% | 0.00% | |
| 2007 | 0.00% | 0.00% | 1265 | 3060 | 4.13E-01 | 65.61% | 0.00% | |
| 2008 | 0.00% | 0.00% | 1265 | 3062 | 4.13E-01 | 72.00% | 0.00% | |
| 2009 | 0.00% | 0.00% | 1305 | 3070 | 4.25E-01 | 56.10% | 0.00% | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Technical safety of infrastructure and its implementation, management of

| Year | Type of accident | | | | | | | Train*Km (MLN) |
|------|---|--|---------------------------------|---|--|---|--|----------------|
| | Percentage of tracks with Automatic Train Protection (ATP) in operation | Percentage of Train*Km using operational ATP systems | Total number of level crossings | Number of track Km (double track lines are to be counted twice) | Total number of level crossings per track Km | Percentage of level crossings with automatic or manual protection | N° of audits accomplished / N° of audits required (and/or planned) | |
| 2006 | 0.00% | 0.00% | 1270 | 2997 | 4.24E-01 | 61.00% | 0.00% | |
| 2007 | 0.00% | 0.00% | 1268 | 3029 | 4.19E-01 | 63.31% | 0.00% | |
| 2008 | 0.00% | 0.00% | 1267 | 3040 | 1.00E+00 | 66.20% | 0.00% | |
| 2009 | 0.00% | 0.00% | 1276 | 3047 | 4.19E-01 | 63.68% | 0.00% | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |
| 2014 | | | | | | | | |
| 2015 | | | | | | | | |

Performances at a glance



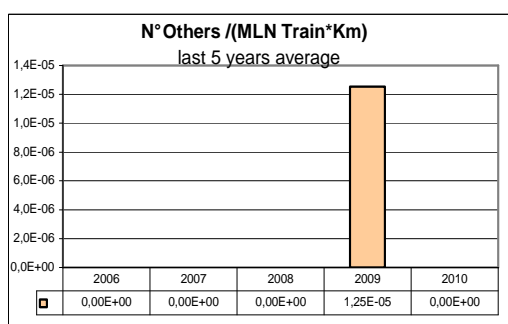
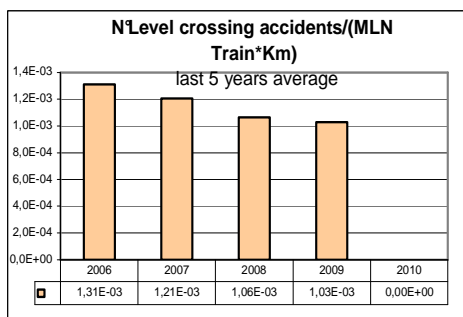
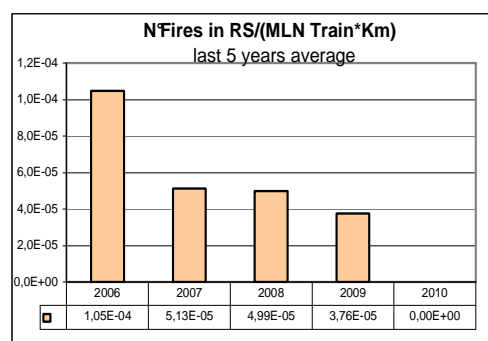
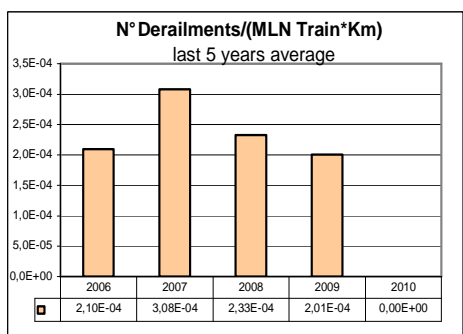
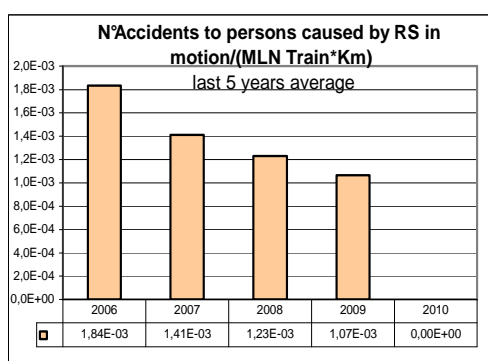
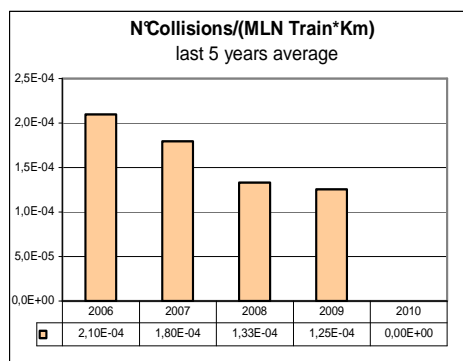
2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

Accidents divided by type



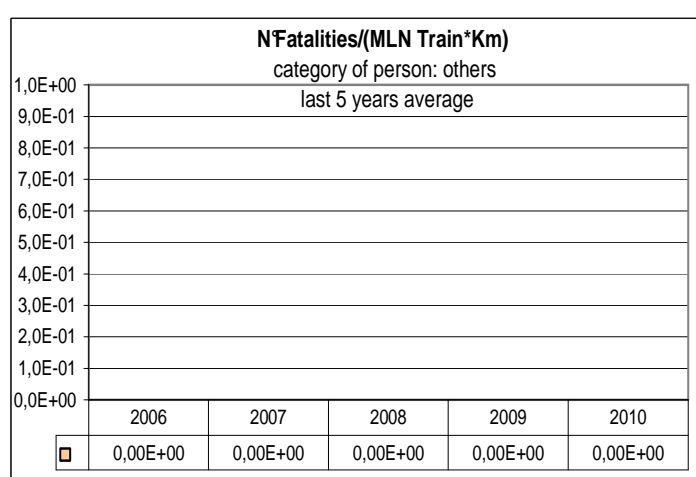
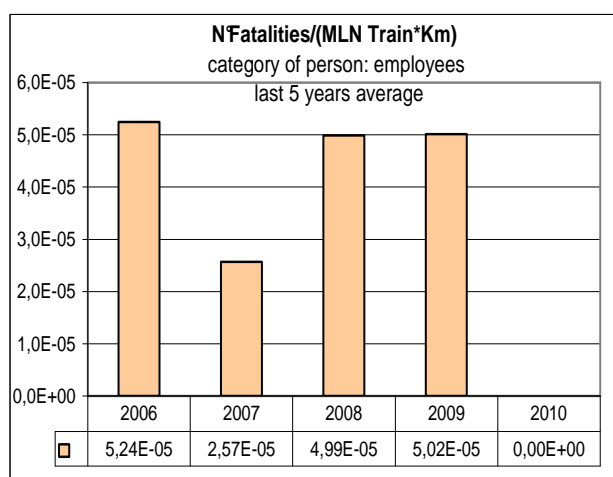
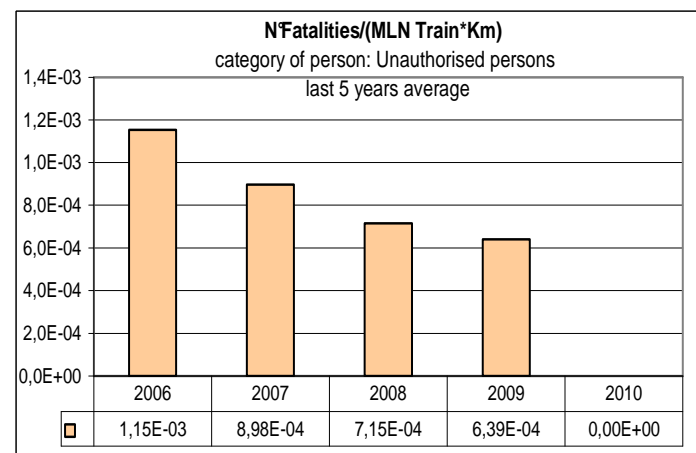
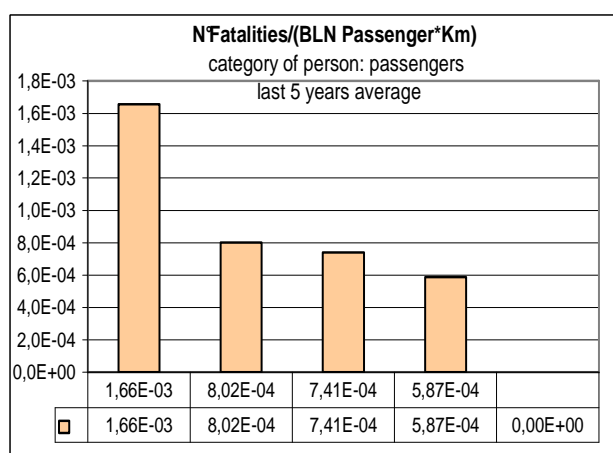
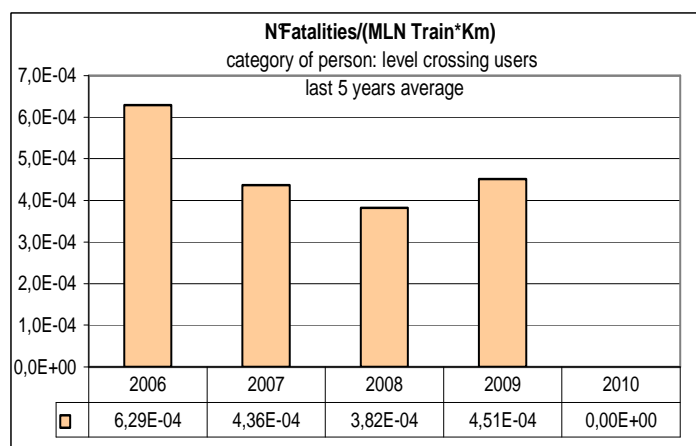
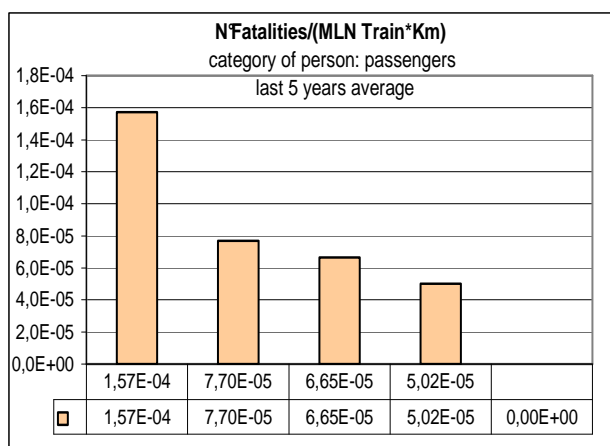
2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

Fatalities divided by category of people involved



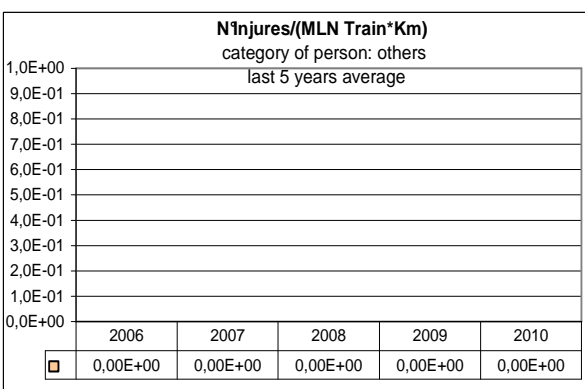
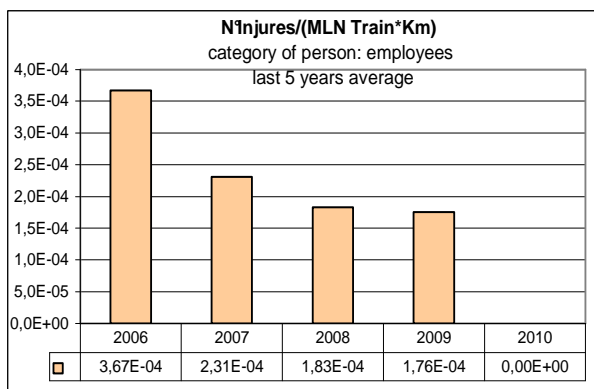
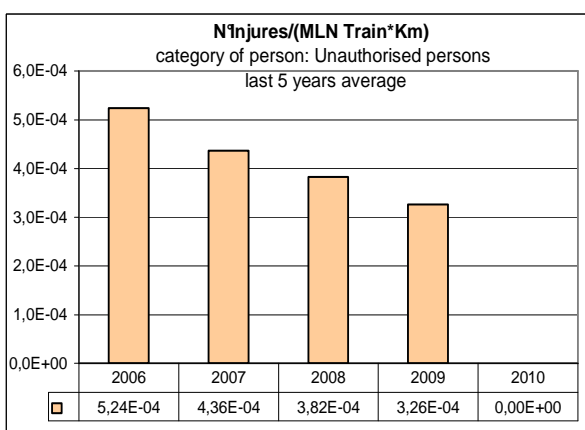
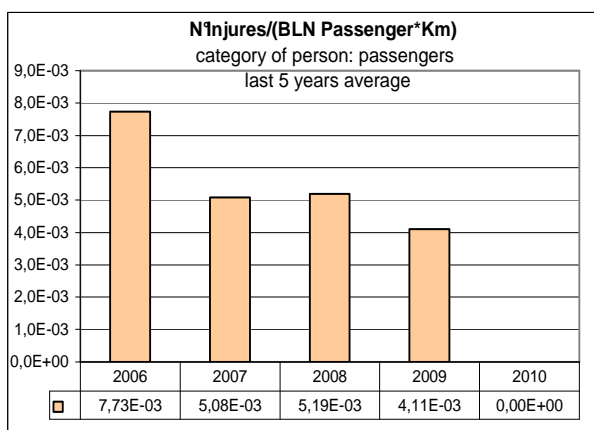
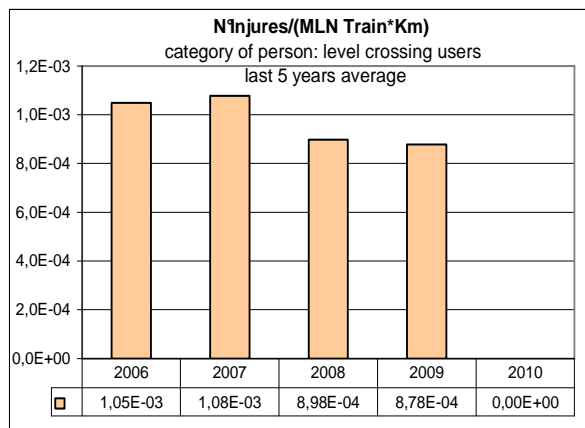
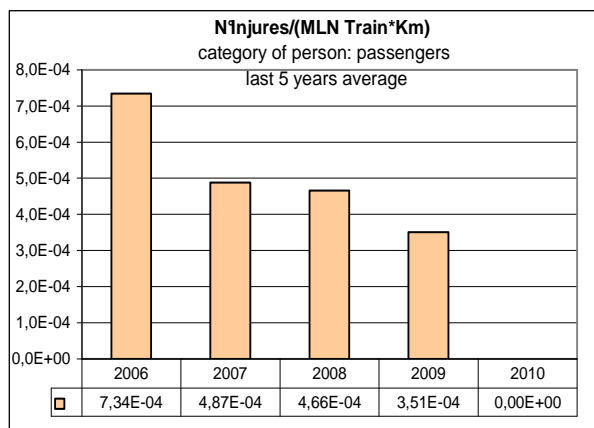
2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

Injures divided by category of people involved



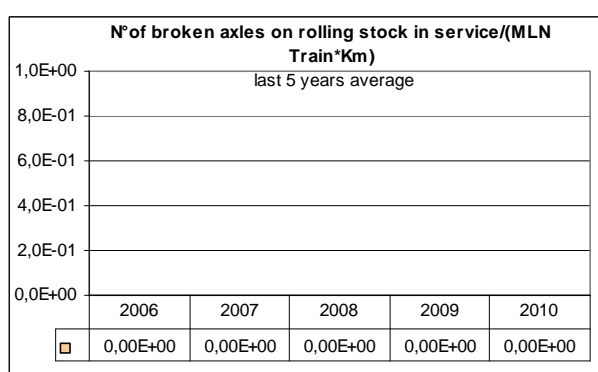
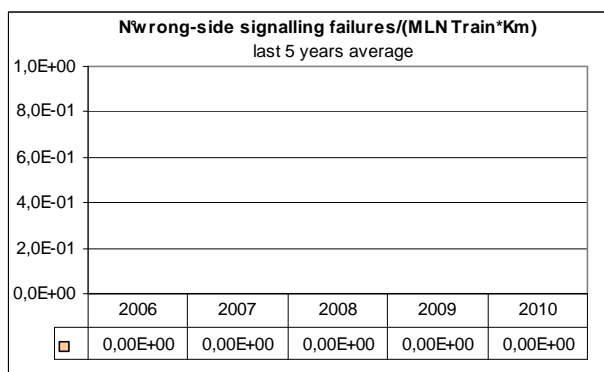
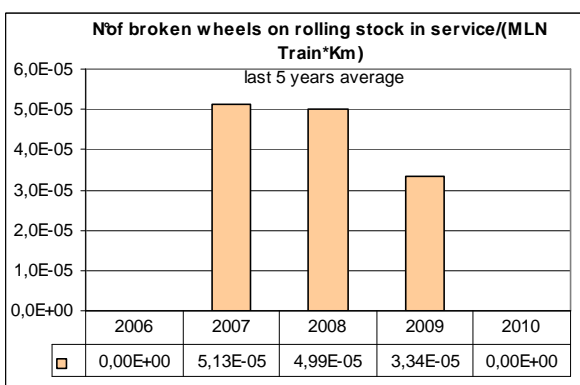
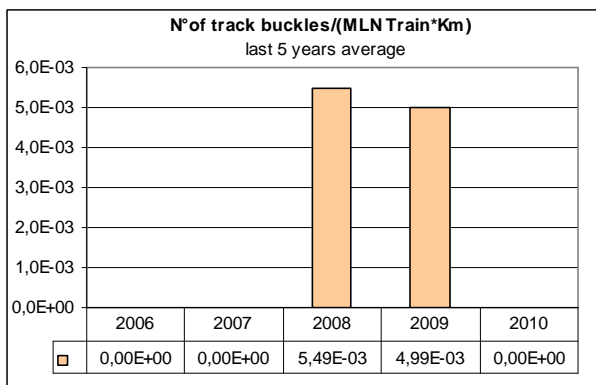
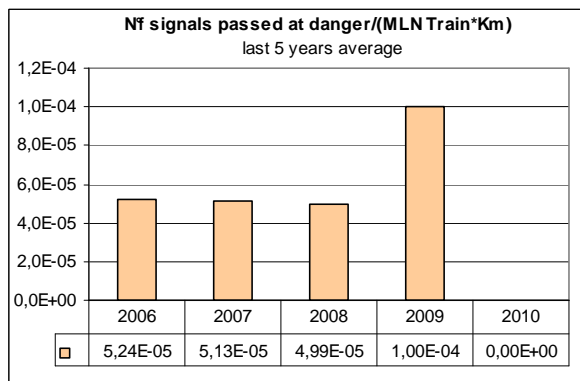
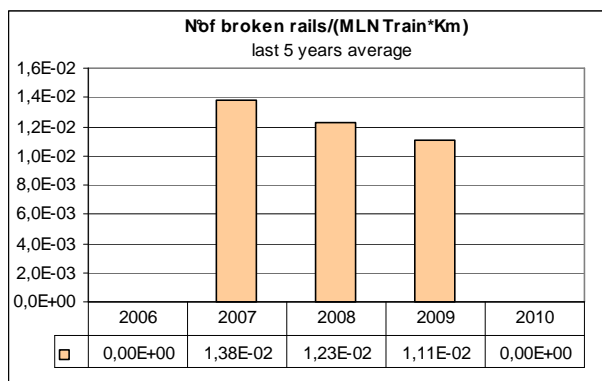
2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

Precursors to accidents



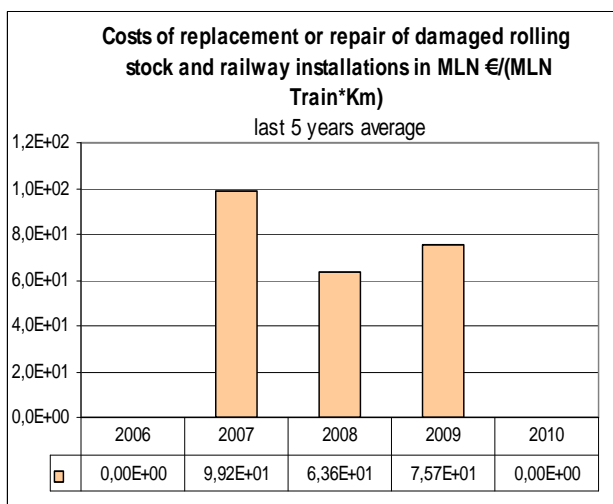
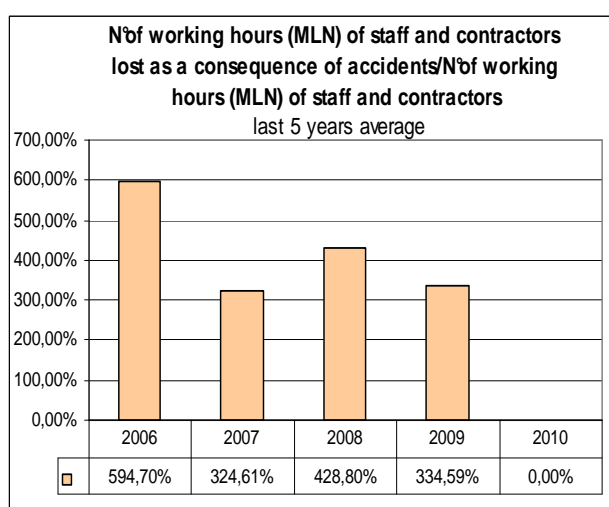
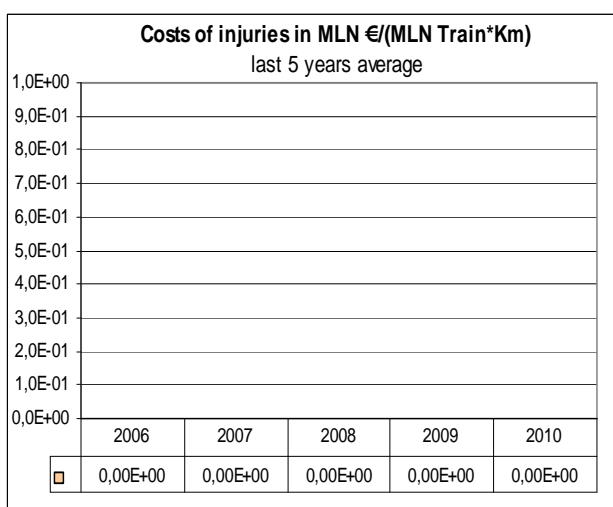
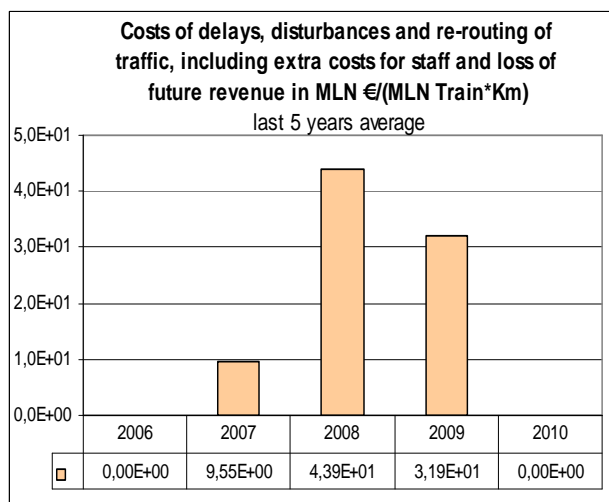
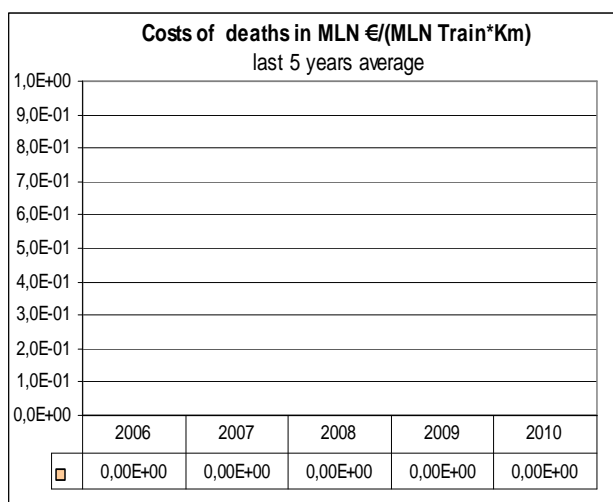
2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

Cost of all accidents, number of working hours of staff and contractors lost as a consequence of accidents



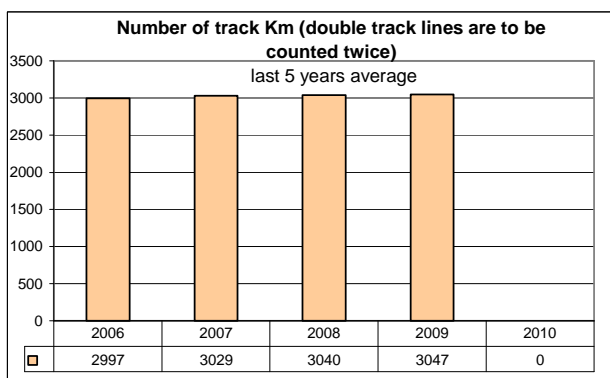
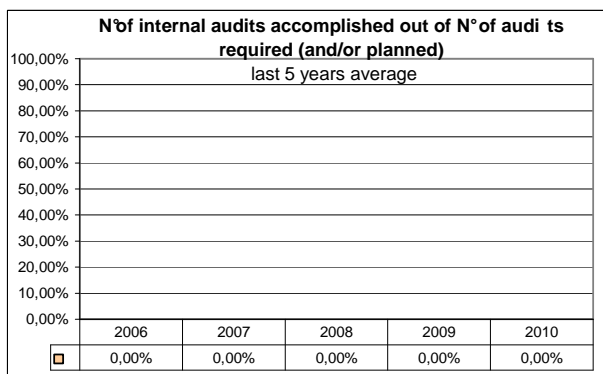
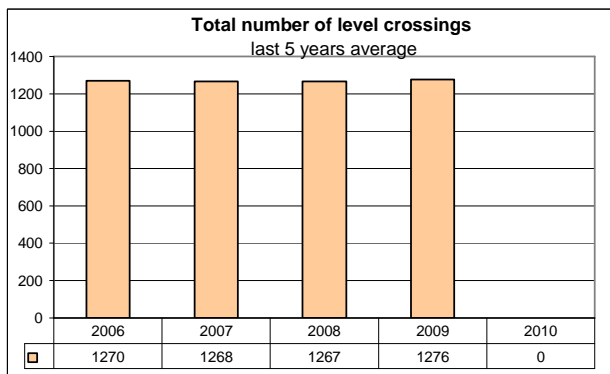
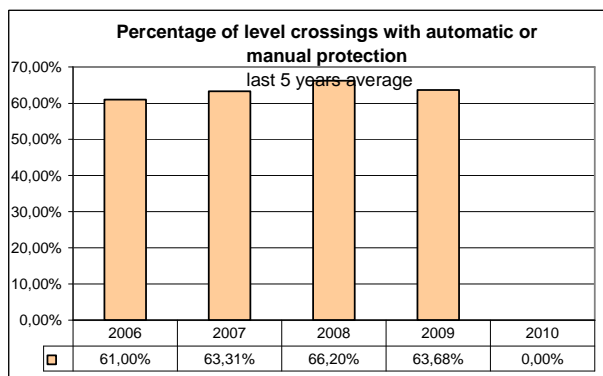
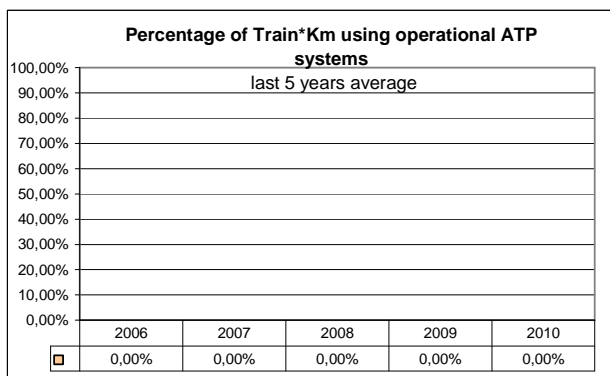
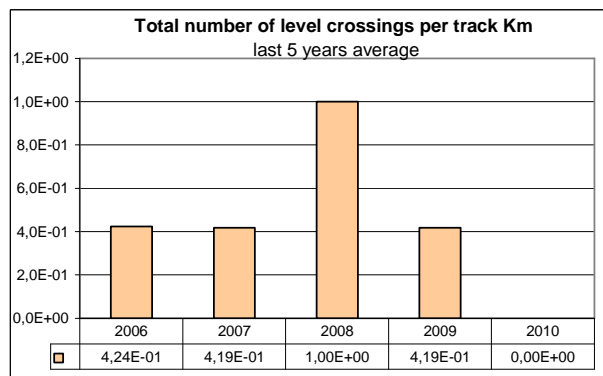
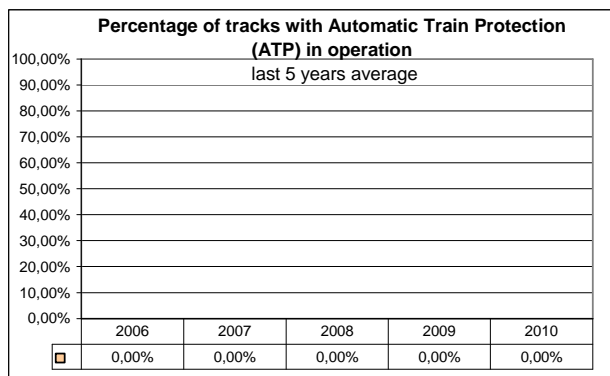
2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

Technical safety of infrastructure and its implementation, management of safety



2007 report: values related to 2006.

2008 report: values related to the average between 2006 and 2007.

2008 report: values related to the average among 2006, 2007 and 2008.

2009 report: values related to the average among 2006, 2007, 2008 and 2009.

C.2. Definitions used in the annual report

C.2.1. The definitions used in the annual report are in compliance with the Regulation 91/03 concerning:

deaths (killed person)

means any person killed immediately or dying within 30 days as a result of an injury accident, excluding suicides

injures (seriously injured person)

means any person injured who was hospitalized for more than 24 hours as a result of an accident, excluding attempted suicides

passenger-km

means the unit of measure representing the transport of one passenger by rail over a distance of one kilometre. Only the distance on the national territory of the reporting country shall be taken into account

rail passenger

means any person, excluding members of the train crew, who makes a trip by rail. For accident statistics, passengers trying to embark/disembark onto/from a moving train are included

suicide

means an act to deliberately injure oneself resulting in death, as recorded and classified by the competent national authority

significant accident

means any accident involving at least one rail vehicle in motion, resulting in at least one killed or seriously injured person, or in significant damage to stock, track, other installations or environment, or extensive disruptions to traffic. Accidents in workshops, warehouses and depots are excluded

train

means one or more railway vehicles hauled by one or more locomotives or railcars, or one railcar traveling alone, running under a given number or specific designation from an initial fixed point to a terminal fixed point. A light engine, i.e. a locomotive traveling on its own, is not considered to be a train

train*Km

means the unit of measure representing the movement of a train over one kilometre. The distance used is the distance actually run, if available, otherwise the standard network distance between the origin and destination shall be used. Only the distance on the national territory of the reporting country shall be taken into account

C.2.2. National definitions

National definitions used by the Infrastructure Manager have been applied for the collection of “number of incidents and near-misses” and “costs of accidents” in which it was included only the “costs of replacement or repair of damaged rolling stock and railway installations” and the “extra costs for staff and loss of future revenue”.

C.3. Abbreviations

| | |
|-------|--|
| CSI | Common Safety Indicator |
| ERA | European Railway Agency |
| LC | Level Crossing |
| MLN | 10 ⁶ |
| BLN | 10 ⁹ |
| NSA | Network Safety Authorities |
| RS | Rolling Stock |
| RU/IM | Railway Undertaking and Infrastructure Manager |

ANNEX D: Important changes in legislation and regulation

D: Important changes in legislation and regulation

| | Legal reference | Date legislation comes into force | Reason for introduction (Additionally specify new law or amendment to existing legislation) | Description |
|---|--|--|--|-------------|
| General national railway safety legislation | | | | |
| Legislation concerning the national safety authority | -P.D 186/2007, -P.D 160/2007 | -Official Gazette of the Hellenic Republic A' 221/12.9.2007, - Official Gazette of the Hellenic Republic A' 201/23.8.2007 | -Obligation from the Directive 2004/49/EC -Transposition into national law of the Safety Directive 2004/49/EC | |
| Legislation concerning notified bodies, assessors, third parties bodies for registration, examination, etc. | NONE | | | |
| | | | | |
| National rules concerning railway safety | Ministerial Decision F4/oik.27887/2166 | -Official Gazette of the Hellenic Republic B' 643/23.5.2006 | Obligation of the Directive 2004/49/EC | |
| Rules concerning national safety targets and methods | NONE | | | |
| Rules concerning requirements on safety management systems and safety certification of | Ministerial Decision AS 4.2/oik.26697/2422 | -Official Gazette of the Hellenic Republic B' 986/22-5-09 | Obligation of the Directive 2004/49/EC | |

| | | | | |
|--|---|--|--|--|
| Railway Undertakings | | | | |
| Rules concerning requirements on safety management systems and Safety Authorisation of Infrastructure Managers | Ministerial Decision AS 4.2/oik.26697/2422 | -Official Gazette of the Hellenic Republic B' 986/22-5-09 | Obligation of the Directive 2004/49/EC | |
| Rules concerning requirements for wagon keepers | NONE | | | |
| Rules concerning requirements for maintenance workshops | NONE | | | |
| Rules concerning requirements for the authorisation of placing in service and maintenance of new and substantially altered rolling stock, including rules for exchange of rolling stock between Railway Undertakings, registration systems and requirements on testing procedures. | Ministerial Decision AS10/11249/1018 | -Official Gazette of the Hellenic Republic B' 911'/19-5-08 | -Enhance railway safety and update of type 3 of the national safety rules (Annex II) Amendment of F4/oik.27887/2166/23.5.2006 | |
| Common operating rules of the railway network, including rules relating to the signalling and traffic procedures | NONE | | | |
| Rules laying down requirements on additional internal operating rules (company rules) that must be established by the Infrastructure Managers and Railway Undertakings | NONE | | | |
| Rules concerning requirements on staff executing safety critical tasks, including selection criteria, medical fitness and vocational training and certification | NONE | | | |

| | | | | |
|--|------|--|--|--|
| Rules concerning the investigation of the accident and incidents including recommendation | NONE | | | |
| Rules concerning requirements for national safety indicators including how to collect and analyse the indicators | NONE | | | |
| Rules concerning requirements for authorisation of placing in service the infrastructure (tracks, bridges, tunnels, energy, ATC, radio, signalling, interlocking, level crossing, platforms, etc.) | NONE | | | |

**ANNEX E: The development of safety certification and
authorisation – Numerical Data**

E.1. Safety Certificates according to Directive 2001/14/EC

| | | |
|--|-------------------------|---|
| Number of Safety Certificates issued according to Directive 2001/14/EC, held by Railway Undertakings in year 2009 being licensed | in your Member State | 0 |
| | in another Member State | 0 |

E.2. Safety Certificates according to Directive 2004/49/EC

| | | New | Updated / amended | Renewed |
|---|-------------------------|-----|-------------------|---------|
| E.2.1. Number of valid Safety Certificates Part A held by Railway Undertakings in the year 2009 being registered | in your Member State | 0 | 0 | 0 |
| | in another Member State | 0 | 0 | 0 |

| | | New | Updated / amended | Renewed |
|---|-------------------------|-----|-------------------|---------|
| E.2.2. Number of valid Safety Certificates Part B held by Railway Undertakings in the year 2009 being registered | in your Member State | 0 | 0 | 0 |
| | in another Member State | 0 | 0 | 0 |

| | | | A | R | P |
|--|-----------------------------|--------------------------------|---|---|---|
| E.2.3. Number of applications for Safety Certificates Part A submitted by Railway | in your Member State for | new certificates | 0 | 0 | 0 |
| | | updated / amended certificates | 0 | 0 | 0 |
| | | renewed certificates | 0 | 0 | 0 |
| | in another Member State for | new certificates | 0 | 0 | 0 |
| | | updated / amended certificates | 0 | 0 | 0 |

| | | | | | |
|--|--|----------------------|---|---|---|
| Undertakings in year 2009 being registered | | renewed certificates | 0 | 0 | 0 |
|--|--|----------------------|---|---|---|

| | | | | | |
|---|-----------------------------|--------------------------------|---|---|---|
| | | | A | R | P |
| E.2.4. Number of applications for Safety Certificates Part B submitted by Railway Undertakings in year 2009 being registered | in your Member State for | new certificates | 0 | 0 | 0 |
| | | updated / amended certificates | 0 | 0 | 0 |
| | | renewed certificates | 0 | 0 | 0 |
| | in another Member State for | new certificates | 0 | 0 | 0 |
| | | updated / amended certificates | 0 | 0 | 0 |
| | | renewed certificates | 0 | 0 | 0 |

A = Accepted application, certificate is already issued

R = Rejected applications, no certificate was issued

P = Case is still pending, no certificate was issued so far

E.2.5. List of countries where RUs applying for a Safety Certificate Part B in your Member State have obtained their Safety Certificate Part A

E.3. Safety Authorisations according to Directive 2004/49/EC

| | | | |
|---|-----|-------------------|---------|
| | New | Updated / amended | Renewed |
| E.3.1. Number of valid Safety Authorisations held by Infrastructure Managers in the year 2009 being registered in your Member State | 0 | 0 | 0 |

| | | A | R | P |
|---|----------------------------------|---|---|---|
| E.3.2. Number of applications for Safety Authorisations submitted by Infrastructure Managers in year 2009 being registered in your Member State | new authorisations | 0 | 0 | 0 |
| | updated / amended authorisations | 0 | 0 | 0 |
| | renewed authorisations | 0 | 0 | 0 |

A = Accepted application, authorisation is already issued

R = Rejected applications, no authorisation was issued

P = Case is still pending, no authorisation was issued so far

E.4. Procedural aspects – Safety Certificates part A

| | | New | Updated / amended | Renewed |
|--|--|-----|-------------------|---------|
| Mean time after having received all necessary information between the receipt of an application and the final delivery of a Safety Certificate Part A in year 2009 for Railway Undertakings holding | a licence released by your Member State | 0 | 0 | 0 |
| | a licence released by another Member State | 0 | 0 | 0 |

E.5. Procedural aspects – Safety Certificates part B

| | | New | Updated / amended | Renewed |
|--|---|-----|----------------------|---------|
| Mean time after having received all necessary information between the receipt of an application and the final delivery of a Safety Certificate Part B in year 2009 for Railway Undertakings holding | a licence released by your Member State? | 0 | 0 | 0 |
| | a licence released by another Member State? | 0 | 0 | 0 |

E.6. Procedural aspects – Safety Authorisations

| | | New | Updated / amended | Renewed |
|---|--|-----|----------------------|---------|
| Mean time after having received all necessary information between the receipt of an application and the final delivery of a Safety Authorisation in year 2009 for Infrastructure Managers holding | a licence released by your Member State | 0 | 0 | 0 |
| | a licence released by another Member State | 0 | 0 | 0 |