Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

RAIL TRANSPORT

ANNUAL SAFETY REPORT 2010

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

DOCUMENT CONTROL		
Drafted by:	Instituto da Mobilidade e dos Transportes Terrestres Avenida das Forças Armadas, No 40 1649-022 Lisboa Portugal	
Approved by:	Carlos do Maio Correia (Engº)	
Revised by:	José Pinheiro (Eng.º)	
Drafted by:	Emídio Cândido (Eng.º)	
Version/Revision:	1.1	
Date:	28.09.2011	
Type of document:	Report	
Document status:	Approved	

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

CONTENTS

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

A.1 – Scope

The main aim of this report is to detail IMTT [Institute for Mobility and Land Transport] activities in its role as the National Railway Safety Authority during 2010 and highlight developments in the safety of passenger and goods transport on the National Railway Network.

It does not cover the activities of other guided transport systems, such as metros, light railways, trams, electric trains and cable cars.

A.2 – Summary

The IMTT Annual Safety Report 2010 sets out the activities of the Portuguese National Railway Safety Authority, the Common Safety Indicators and the year's most significant safety-related events.

The report gives a detailed description and analysis of railway safety performance over the last few years in order to identify trends that may inform decision-making on future measures to improve railway safety.

The report does not cover the activities of other guided transport systems such as metros, light railways, trams, electric trains and cable cars.

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

B – Introduction

B.1 – Introduction to the report

The drafting and publication of this report for 2010 discharges the legal requirement to publish an annual report on rail transport safety, as set out in Article 66-O of Decree Law No 270/2003, as amended by Decree Law No 231/2007 of 14 June.

The IMTT produced this report in accordance with European Railway Agency (ERA) guidelines and recommendations on the content and structure of National Safety Authority annual safety reports.

This report sets out the IMTT's safety-related activities, highlighting its initiatives for improving railway safety, and covers the publication of relevant safety rules, the development of the safety certification and authorisation for undertakings and the supervision of their activities.

In addition to details of these activities, Annex C of the report also contains the Common Safety Indicators (CSIs) listed in Annex V of the abovementioned Decree Law and used to measure and assess safety performance.

The data published in this report were taken from the annual safety reports of rail transport and infrastructure management undertakings, submitted to the IMTT in accordance with the provisions of Article 66-C of the abovementioned Decree Law.

Accident data consistency checking and final confirmation were carried out using a participatory, transparent process involving transport and infrastructure management undertakings, and they were given the opportunity to correct the data, guaranteeing their reliability.

This report will be circulated directly to the following

- Ministry of the Economy and Employment
- European Railway Agency
- *Gabinete de Investigação de Segurança e de Acidentes Ferroviários* [Safety and Rail Accident Investigation Bureau]
- Infrastructure management and rail transport undertakings.

It will also be made available to the public through the IMTT website.

B.2 – Information on the structure of the railway system

A generic description of the national railway network and details of railway network and infrastructure management and transport undertakings are provided in Annex A.

B.3 – Trends

B.3.1 – Accidents

The number of accidents in 2010 continued to fall, in line with the trend over the last few years, and therefore the results can be considered fairly positive. By comparison with the previous year and the average for the last seven years, there has been a drop in the number of accidents and their undesirable consequences in terms of both human injury and material damage.

The most positive aspect is reflected in a significant drop in the number of fatalities (-10) by comparison with 2009.

In contrast to this trend of a reduction in accidents, over the past few years there has been a consistent increase in the number of suicides. However, 2010 saw an unexpected significant drop in the number of suicides (- 18) by comparison with the previous year.

The number of level crossings continued to fall, and the number of fatalities at level crossings dropped to its lowest level since the safety indicators were introduced in 2004, showing that the programme of ongoing reductions in the number of level crossings and improved safety at those remaining is having a positive impact in reducing the number of crossing-related accidents.

B.3.2 – Developments in Safety Management

2010 saw intense activity in safety management. In addition to the renewal of the safety certificates (parts A and B) of the goods transport undertaking, CP Carga, the other uncertificated undertakings, CP and REFER, applied to the IMTT for approval of their safety management systems and were duly awarded Safety Certificates and Authorisations.

Furthermore, Fertagus, whose safety certificate was awarded under Directive 2001/14, formally applied for safety certificates (parts A and B) under Directive 2004/49, transposed into Portuguese legislation by Decree Law 270/2003, amended by Decree Law 231/2007

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

C – Organisation of the IMTT

The IMTT was created by Decree Law No 147/2007 of 27 April and took on the land passenger, goods and other transport responsibilities of various defunct industry bodies (in the case of the railways, from the INTF). It also took responsibility for matters related to drivers, transport professionals, vehicles and infrastructure.

The IMTT has a functionally autonomous Railway Regulatory Unit with responsibilities for the economic and technical regulation of this subsector.

C.1 – Mission

The IMTT's mission is to regulate, monitor and take responsibility for coordinating and planning the land transport sector in order to meet the mobility needs of people and goods.

It is also responsible for supervising and regulating the sector's activities and promoting the safety and quality of the service and the rights of land transport service users.

C.2 – Safety

The IMTT is the designated National Safety Authority, as provided for in European Parliament and Council Directive 2004/49/EC of 29 April 2004 on safety on the Community's railways, and has the power to:

- approve, authorise and certificate vehicles and equipment used by land transport systems, including railway infrastructure, guarantee the required technical and safety standards and authorise and supervise the agencies responsible for certification and inspection.
- approve and reject safety management systems and impose penalties for inadequate performance.
- monitor land transport sector activities and ensure that the system for dealing with administrative offences is applied.
- decide on the introduction of technical improvements in the railway and road subsectors in the light of technological changes with a view to improving safety, making services more efficient and reducing negative environmental impacts.

C.3 – Organisation chart

See Annex B1 for the IMTT organisation chart.

C.4 – Workforce

To discharge its responsibilities in the road and rail transport sectors throughout national territory, the IMTT had a labour force of 837 on 31 December 2010.

For the purposes of regulating safety on guided transport systems such as metros, light railways, trams and cable cars in 2010, the IMTT's Railway Infrastructure and Equipment Department, part of the Directorate for Technical Regulation and Safety Services, employed:

- 1 Departmental Head
- 4 Senior Technical Officers

Note that two posts were eliminated in 2010, representing a cut of 28.6 % in the already small number of officers assigned to this activity.

C.4 – Relations with other agencies

In discharging its responsibilities as the National Railway Safety Authority, the IMTT has institutional relations with various agencies, as shown in Annex B.2.

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

D – Development of railway safety

D.1 – Implementation of Directive 2004/49/EC (Railway Safety Directive)

Directive 2004/49/EC was transposed into Portuguese legislation (only in part in regard to safety aspects) by Decree Law No 231/2007 of 14 June, which amended Decree Law No 270/2003 of 28 October. This Decree Law made safety certification and authorisation obligatory, established common safety indicators, objectives and methods and set out the safety responsibilities of the railway regulator – the IMTT.

Transposition of the Directive into national legislation was completed with the publication of Decree Law No 394/2007 of 31 December, which set out the responsibilities, jurisdiction and procedures of the *Gabinete de Investigação de Segurança e Acidentes Ferroviários* (GISAF) [Safety and Rail Accident Investigation Bureau] for the technical investigation of accidents and incidents. GISAF's nature, mission and organisation were set out in Decree Law No 395/2007 of 31 December.

In order to implement Decree Law No 270/2003, as amended by Decree Law No 231/2007, the following regulations were published in 2010:

- Regulation No 442/2010 on the issuing of safety authorisation.
- Regulation No 443/2010 on the issuing of safety certificates.

Even though the regulatory framework set forth in Decree Law No 270/2003, amended by Decree Law No 231/2007 was still not completed in 2010, the IMTT developed its procedures for examining safety management system approval and certification applications submitted by the various undertakings, based on the criteria and methods set out in Community Regulations No 1158/2010/EU and No 1169/2010/EU relating to common methods for evaluating compliance with the requirements for obtaining safety certification and authorisations.

Therefore, 2010 can be thought of as a year in which the Railway Safety Directive was consolidated with positive effects.

D.2 – Initiatives for maintaining or improving safety

The most significant initiatives for maintaining and improving rail transport safety are presented in Tables D.2.1 and D.2.2 respectively. Some initiatives were taken in response to accidents while others continued previous initiatives and were implemented by the IMTT and railway undertakings.

Safety initiative	Accidents giving rise to the measure		
	Date	Place	Description
Maintaining suspension of traffic on the Tua line between the stations at Tua and Cachão	22.08. 2008	Tua line	Derailment of Railcar LRV 9503
Restrictions on series 933 coal wagon traffic	26.10. 2010	Southern line	Derailment of Train 66852

Table D.2.1 – Most significant safety initiatives taken in response to accidents.

Safety initiative	Reason
Maintaining suspension of traffic on the Corgo and Tâmega lines and on the Figueira da Foz siding	Improvement of operating conditions and increasing traffic safety
Continuing the safety improvement programme for Level Crossings, eliminating 53 and reclassifying a further 54.	Eliminating/reducing accidents associated with level crossings.
Implementing a computerised operational safety system on the Vouga line	Improvement of operating conditions and increasing traffic safety

Table D.2.2 – Most significant safety initiatives taken for other reasons

D.3 – Analysis of trends

The data presented in this report was analysed and processed based on the harmonised definitions and methods of the European Community, developed by the European Railway Agency, and laid down in Directive 2009/149/EC of 27.11.2009, amending Annex 1 of Directive 2004/49/EC (Safety Directive), and in the Decree Law.

This section of the report provides an analysis of some trends revealed by the Common Safety Indicators over the seven-year period from 2004 to 2010.

It also provides an analysis of the safety performance of the railway network in 2010 by comparing the seven-year averages with the previous year's figures.

Annex C contains tables of numeric data, ratios and definitions used in analysing common safety indicators for 2010.

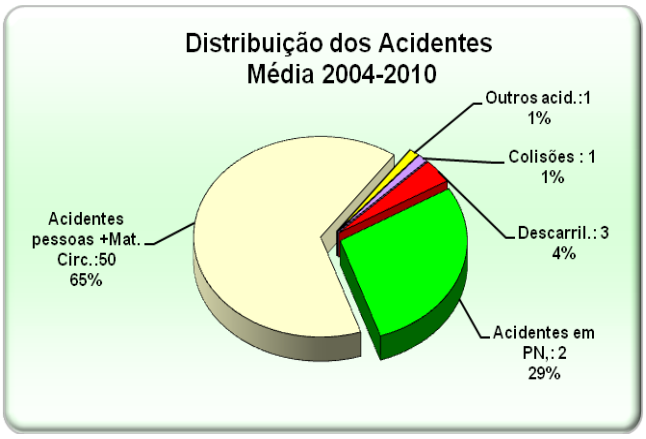
D.3.1 – Number of accidents

Number of Accidents	2004	2005	2006	2007	2008	2009	2010	Average
Total number of accidents	**115**	**87**	**89**	**93**	**73**	**43**	**42**	**77**
Train collisions, including collisions with obstacles within the clearance gauge	1	1	3	3	0	0	2	**1**
Train derailments	3	1	9	3	3	1	3	**3**
Accidents at level crossings, including accidents involving pedestrians	33	22	22	27	20	15	14	**22**
Accidents to persons caused by rolling stock in motion, except for suicides	78	63	55	56	49	27	22	**50**
Fires in rolling stock	0	0	0	0	0	0	0	**0**
Other accidents	0	0	0	4	1	0	1	**1**
Suicides	**25**	**39**	**40**	**52**	**50**	**69**	**51**	**47**

There was a drop in the number of accidents in 2010, both in comparison to 2009 (- 1%) and relative to the average for the last seven years (- 45 %). This was mainly due to a drop in accidents at level crossings (- 36 % against the average) and in accidents involving persons caused by rolling stock in motion (-56% against the average).

Over the past seven years, it has become the norm with our railway system and in the rest of Europe for the categories in which most accidents occur to be accidents to persons caused by rolling stock in motion, and accidents at level crossings.

Analysis of the chart opposite shows that accidents caused by the intrinsic activity of the railways, with no external factors, and corresponding to collisions, derailments and fires in rolling stock represent only a small percentage of the total (6%), confirming the relative stability with which they occur as time progresses.



Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

Legend	*Insert translation*
Distribuição dos Acidentes Média 2004-2010	Average Distribution of Accidents 2004-2010
Acidentes pessoas+Mat. Circ.: 50 65%	Accidents involving persons + RS:50 65%
Outros acid.:1 1%	Other accidents:1 1%
Colisões:1 1%	Collisions:1 1%
Descarril.:3 4%	Derailments: 3 4%
Acidentes em PN.:2 29%	Accidents at LCs:2 29%

For the seventh year running, there were no accidents due to fires in rolling stock.

The distribution of accidents and their relative weightings stayed practically unchanged by comparison with the previous year, accidents to persons caused by rolling stock in motion still accounting for two-thirds of occurrences, with slightly over a quarter taking place at level crossings.

Charts indicating changes in the pattern of accidents over the 2004-2010 period and accident trends are given on page 13.

These charts show that there is a clear trend towards lower total accident figures, mainly related to reductions in the number of the most frequent occurrences: accidents to persons caused by rolling stock in motion and accidents at level crossings.

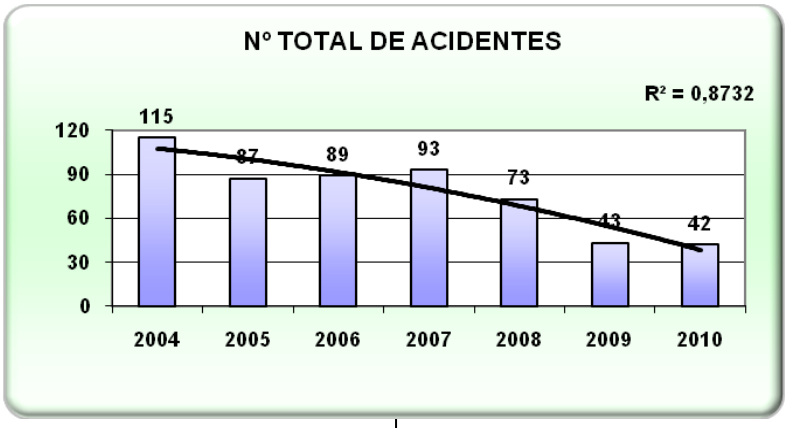
It is also clear from these charts that the drop in the number of accidents at level crossings reflects the positive impact of the accident prevention and crossing improvement programme implemented by the infrastructure manager, as well as the media campaigns for raising public awareness of the dangers.

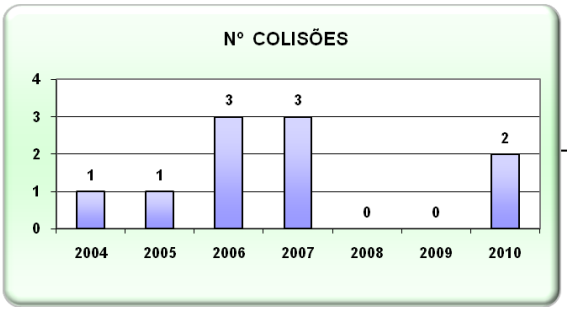
There were two collisions in 2010, one between trains during shunting operations, involving material damage only, and the other with an obstacle on the line (an animal) which resulted in derailment of the train. It is worth noting that this is the first collision over the last seven years to be considered sufficiently serious to warrant inclusion in the list of significant accidents.

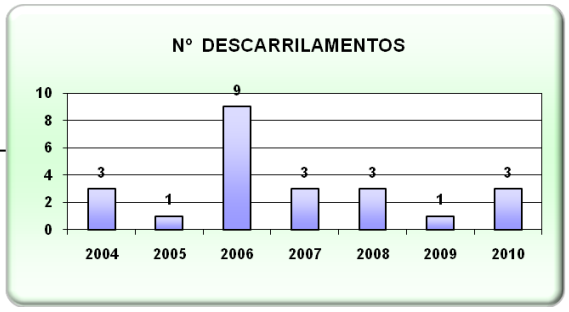
The number of derailments in 2010 was around average. The three derailments that occurred involved goods trains only.

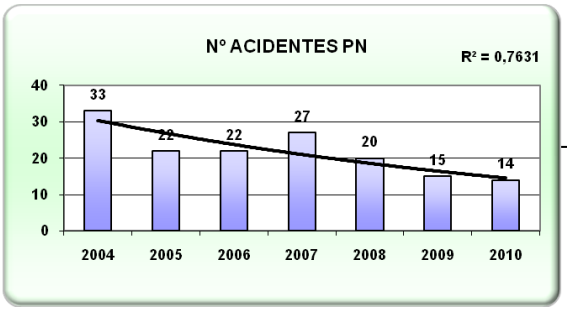
The frequency of other significant accidents not falling within the main categories continues below the threshold of statistical significance.

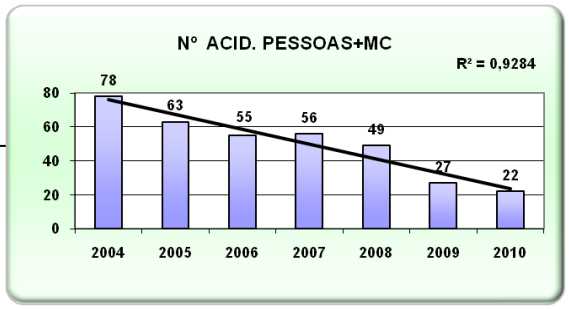
In regard to suicides, analysed in detail in section D.3.3., there was a significant year-on-year drop in 2010 (- 26 %), although the figure is still higher than average and higher than the total fatalities resulting from accidents (51 as opposed to 22).

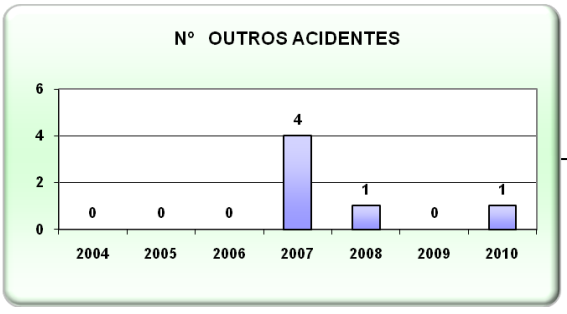

Nº TOTAL DE ACIDENTES
R² = 0,8732
120
90
60
30
0
115
97
89
93
73
43
42
2004
2005
2006
2007
2008
2009
2010


Nº COLISÕES
4
3
2
1
0
1
1
3
3
0
0
2
2004
2005
2006
2007
2008
2009
2010


Nº DESCARRILAMENTOS
10
8
6
4
2
0
3
1
9
3
3
1
3
2004
2005
2006
2007
2008
2009
2010


Nº ACIDENTES PN
R² = 0,7631
40
30
20
10
0
33
22
22
27
20
15
14
2004
2005
2006
2007
2008
2009
2010


Nº ACID. PESSOAS+MC
R² = 0,9284
80
60
40
20
0
78
63
55
56
49
27
22
2004
2005
2006
2007
2008
2009
2010


Nº OUTROS ACIDENTES
6
4
2
0
0
0
0
4
1
0
1
2004
2005
2006
2007
2008
2009
2010

	Insert translation
N° TOTAL DE ACIDENTES	TOTAL ACCIDENTS
N° COLISÕES	COLLISIONS
N° DESCARRILAMENTOS	DERAILMENTS
N° ACIDENTES PN	LC ACCIDENTS
N° ACID. PESSOAS+MC	ACCIDENTS INVOLVING PERSONS AND RS
N° OUTROS ACIDENTES	OTHER ACCIDENTS

D.3.2 – Fatalities

D.3.2.1 – Fatalities per accident type

Total fatalities by accident type	2004	2005	2006	2007	2008	2009	2010	Average
Total for all accidents	**72**	**47**	**53**	**58**	**42**	**32**	**22**	**47**
Train collisions, including collisions with obstacles within the clearance gauge	0	0	0	0	0	0	0	**0**
Train derailments	3	0	0	3	1	0	0	**1**
Accidents at level crossings, including accidents involving pedestrians	26	11	18	20	15	17	11	**17**
Accidents to persons caused by rolling stock in motion	43	36	35	35	26	15	11	**29**
Fires in rolling stock	0	0	0	0	0	0	0	**0**
Other accidents	0	0	0	0	0	0	0	**0**

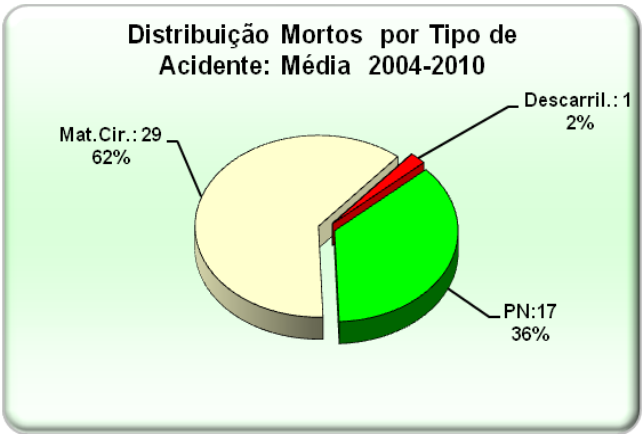
In 2010, the number of fatalities resulting from railway accidents was the lowest since statistics were first recorded in 2004. There was a significant drop in comparison to 2009 (10 fewer fatalities), due to a drop in the number of victims of accidents caused by rolling stock in motion and accidents at level crossings (LC).

In Portugal, as in other European countries, the overwhelming majority of fatalities (98%) involve people using railway property inappropriately, either by trespassing or by failing to observe the rules at level crossings, as shown in the accompanying charts.

The accidents involving the most fatalities are, on average, those caused by rolling stock in motion (almost two-thirds) and those occurring at level crossings (one third).

In 2010, there were no fatalities as a result of derailments or collisions. Although these types of accident are subject to more intense media attention and cause greater social impact, they account for only 2% of fatalities.

The positive effect of increased safety on the railway system is reflected by the fact that, over the last seven years, there have been no fatalities caused by train collisions.



	Insert translation
Distribuição Mortos por Tipo de Acidente: Média 2004-2010	Distribution of Fatalities per Accident Type: Average 2004-2010
Mat.Cir.:29 -62%	Roll. Stock: 29 -62%
Descarril.:1 -2%	Derail.:1 -2%
PN:17 -36%	LC:17 -36%

D.3.2.1 – Fatalities per category of person

Fatalities per category	2004	2005	2006	2007	2008	2009	2010	Average
Total	**72**	**47**	**53**	**58**	**42**	**32**	**22**	**47**
Passengers	0	0	0	1	3	0	1	**1**
Employees	3	2	1	5	1	1	1	**2**
LC users	26	11	18	20	15	17	11	**17**
Unauthorised persons	43	33	34	32	23	14	9	**27**
Others	0	1	0	0	0	0	0	**0**

In 2010, the trend reversal first observed in 2009 continued (see table and chart on this page). The number of fatal accidents at level crossings was higher than the number of persons killed as a result of trespassing on railway property (unauthorised persons), in stark contrast to the figures for the five years prior to 2009.

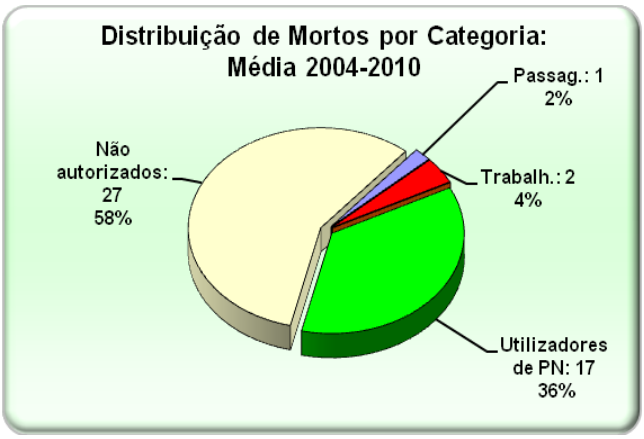
Changes in the figures in comparison to 2009 are indicated below:

Passengers: + 1
Employees: no change
LC users: - 6
Unauthorised persons: - 5
Others: no change
Total: - 10

Average distribution over the last seven years shows that the overwhelming majority of fatal accidents involve trespassers on railway property (Unauthorised Persons) and Level Crossing Users (94%).

The records show that railway transport is a particularly safe means of passenger transport, with passengers accounting for only 2% of fatalities.
The trend shows a clear and consistent drop in the number of fatalities due to railway accidents (see charts on next page), and this is obviously fairly positive.

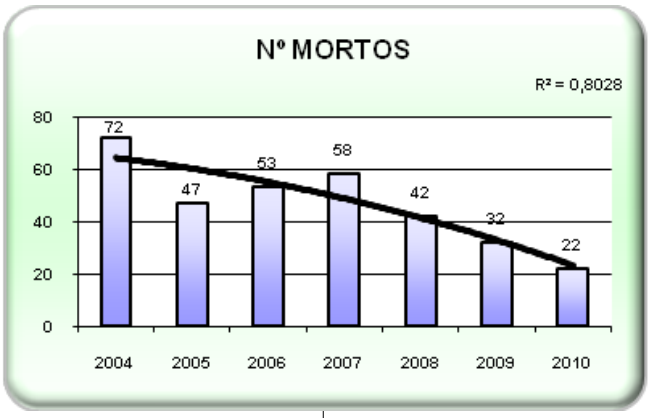
In regard to fatalities in accidents at level crossings, although there was a drop in 2010, there is as yet no clearly defined downward trend in the number of fatalities. However, the overall risk posed by level crossings to society in general has fallen consistently, as shown in the chart on page 23.

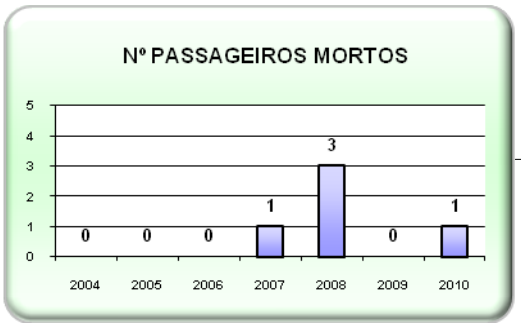


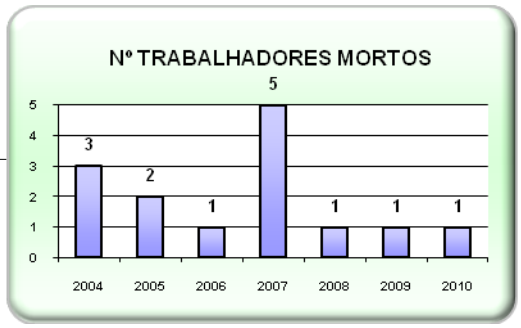
Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

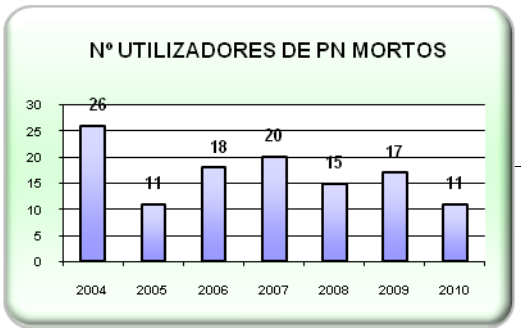
Distribuição de Mortos por Categoria:Média 2004-2010	Distribution of Fatalities per Category: Average 2004-2010
Não autorizados:27 – 58%	Unauth. Persons:27 -58%
Passag.:1 – 2%	Passengers:1 – 2%
Trabalh.:2 – 4%	Employees:2 – 4%
Utilizadores de PN:17- 36%	LC Users:17 – 36%

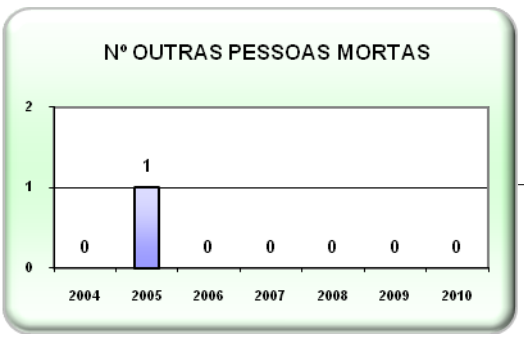
Instituto da Mobilidade
e dos Transportes Terrestres, I.P.











N° MORTOS	FATALITIES
N° PASSAGEIROS MORTOS	PASSENGER FATALITIES
N° TRABALHADORES MORTOS	EMPLOYEE FATALITIES
N° UTILIZADORES DE PN MORTOS	LC USER FATALITIES
N° PESSOAS NÃO AUTORIZADAS MORTAS	UNAUTHORISED PERSON FATALITIES
N° OUTRAS PESSOAS MORTAS	OTHER FATALITIES

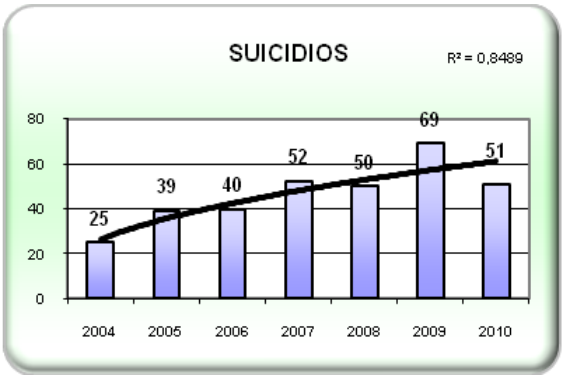
D.3.3 – Suicides

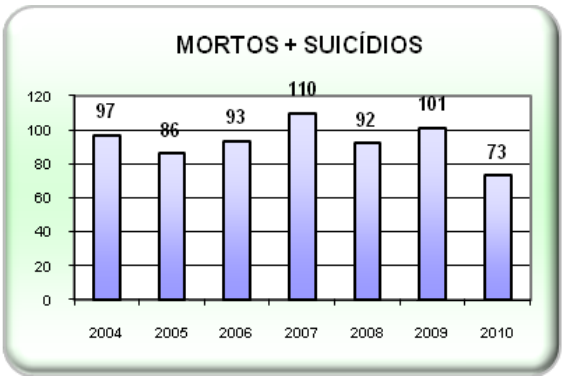
It must be borne in mind that suicides are not deemed to be accidents since they constitute voluntary acts intended to harm those who commit them. In addition to being personal and social tragedies, suicides cause enormous disruption to the railways.

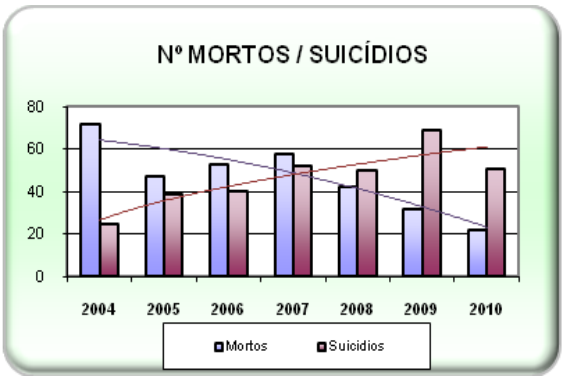
In the period from 2004 to 2010, whereas there is a downward trend in the occurrence of fatalities caused by accidents, in overall terms the number of suicides is tending to increase, despite the fact that 2010 saw a significant drop in suicides by comparison with 2009 (17 fewer suicides, representing a drop of 26%).

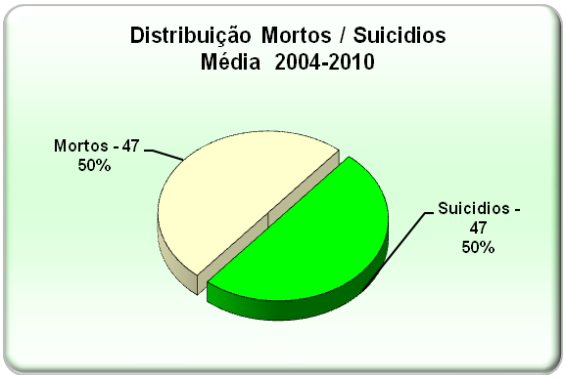
An interesting statistic for assessing the impact of suicides on the railway system is the contribution they make to the total fatalities recorded on railway property. The chart shows that, on average, suicides account for almost half of the total fatalities that have occurred over the last seven years.

Another interesting observation is the fact that the total number of fatalities on railway property (accidental deaths and suicides) has risen and fallen over the years, but 2010 saw the lowest number of fatalities on railway property.









SUICÍDIOS	SUICIDES
MORTOS+SUICÍDIOS	FATALITIES + SUICIDES
N° MORTOS/ SUICÍDOS	FATALITIES/SUICIDES
Distribuição Mortos/ Suicídios Média 2004-2010	Average Distribution of Fatalities/Suicides 2004-2010

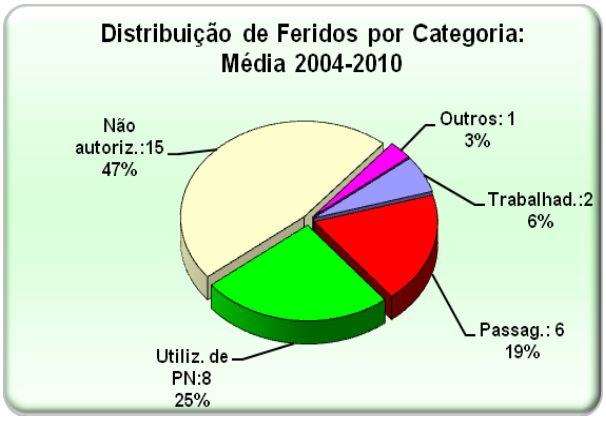
D.3.4 – Serious Injuries

Serious injuries per category	2004	2005	2006	2007	2008	2009	2010	Average
Total for all accidents	**50**	**44**	**33**	**34**	**39**	**18**	**16**	**31**
Passengers	11	7	8	5	6	4	3	**6**
Employees	3	0	2	2	2	2	2	**2**
LC users	12	15	9	8	10	5	3	**8**
Unauthorised persons	24	22	12	18	20	7	8	**15**
Others	0	0	2	1	1	0	0	**1**

The number of serious injuries has fallen significantly and consistently over the past seven years, especially during the last two years, and in all categories. There has been a very substantial drop in the number of unauthorised persons suffering serious injury.

The distribution pattern for serious injuries is similar to that for fatalities, with the overwhelming majority of injuries suffered by unauthorised persons and level crossing users.

The average pattern of distribution over the period from 2004 to 2010 shows a significant number of injuries to passengers (19%), a much higher percentage than that for the number of fatalities, at around 2% of the total.



Distribuição de Ferùidos por Categoria: Média 2004-2010	Average Distribution of Serious Injuries per Category: 2004-2010
Não autoriz.:15 – 47%	Unauth. persons:15 – 47%
Utiliz.de PN:8 – 25%	LC users:8 – 25%
Outros:1 -3%	Others:1 -3%
Trabalhad.:2 – 6%	Employ.:2 – 6%
Passag.:6 – 19%	Pass..:6 – 19%

D.3.5 – The risk for society

Fatalities per category	2004	2005	2006	2007	2008	2009	2010	Média
Total for all accidents	**2.03**	**1.32**	**1.43**	**1.5**	**1.1**	**0.83**	**0.59**	**1.25**
Passengers	0.03	0.02	0.02	0.04	0.09	0.01	0.03	**0.03**
Employees	0.09	0.05	0.03	0.13	0.03	0.03	0.03	**0.06**
LC users	0.72	0.32	0.48	0.51	0.38	0.43	0.28	**0.44**
Unauthorised persons	1.19	0.9	0.9	0.82	0.6	0.36	0.25	**0.72**
Others	0	0.03	0.01	0	0	0	0	**0.01**

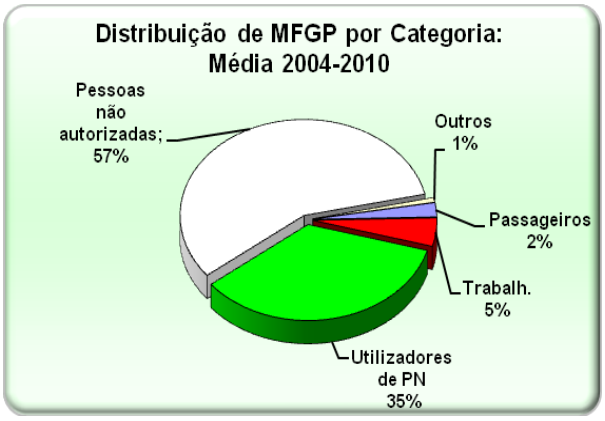
A useful method for analysing overall trends in railway accidents and the risks to which society is exposed by rail transport involves calculating a standard index that takes into account the number of fatalities and serious injuries during the year.

This indicator is calculated by dividing the total number of Fatalities and Weighted Serious Injuries (FWSI) by the number in millions of trains multiplied by kilometres travelled during the year under analysis. For the purposes of calculating the index, a weighted serious injury is considered to be statistically equivalent to 0.1 of a fatality.

The trend suggests a clear reduction over the past seven years in the overall risk to society posed by the railway network, as shown in the chart on the next page.

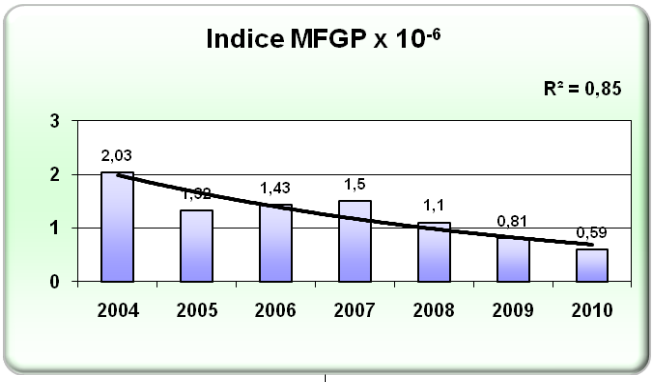
The different risk categories are shown in the respective charts, indicating a clearly downward trend in the risk to those in the category “Unauthorised persons on railway property”.

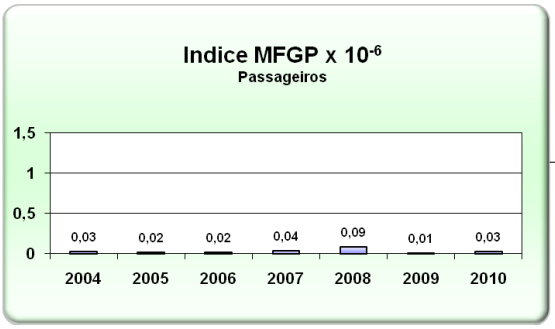
Since the charts show the individual categories on the same scale, it is clear that the proportion of the risk posed to society in terms of passengers, employees and others by comparison with the overall risk is extremely small (see chart below).

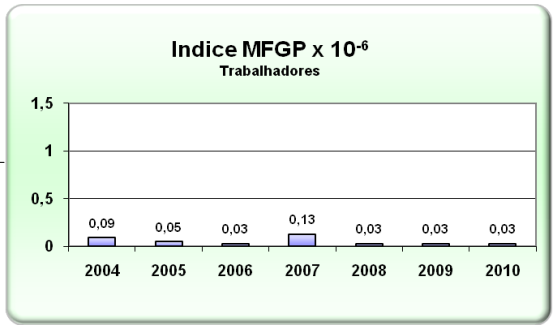


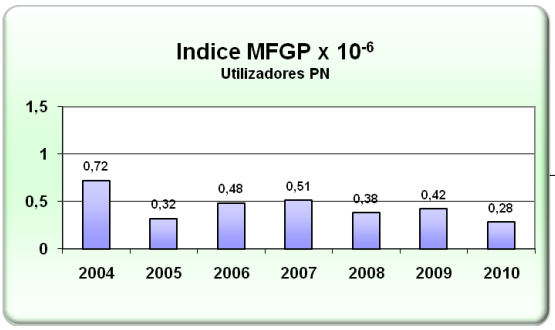
Distribuição de MFGP por Categoria: Média 2004-2010	Distribution of FWSI per Category: Average 2004-2010
Pessoas não autorizadas:57%	Unauthorised persons: 57%
Outros 1%	Others 1%
Passageiros 2%	Passengers 2%
Trabalh. 5%	Employees 5%
Utilizadores de PN 35%	LC users 35%

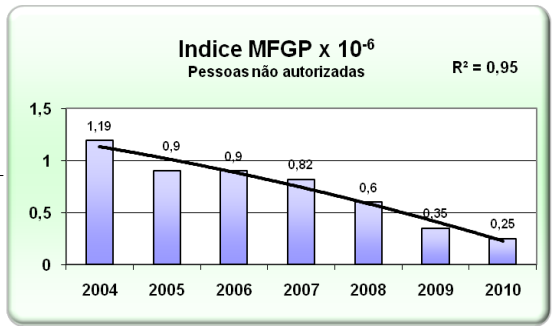
Indice MFGP x 10-6	FWSI Index x 10-6
Indice MFGP x 10-6 Passageiros	FWSI Index x 10-6 Passengers
Indice MFGP x 10-6 Utilizadores PN	FWSI Index x 10-6 LC Users
Indice MFGP x 10-6 Outras pessoas	FWSI Index x 10-6 Others
Indice MFGP x 10-6 Trabalhadores	FWSI Index x 10-6 Employees
Indice MFGP x 10-6 Pessoas não autorizadas	FWSI Index x 10-6 Unauthorised persons

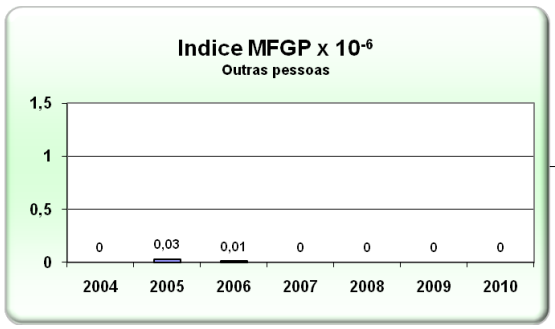

Indice MFGP x 10-6
R² = 0,85
3
2
1
0
2,03
1,43
1,5
1,1
0,81
0,59
2004
2005
2006
2007
2008
2009
2010


Indice MFGP x 10-6
Passageiros
1,5
1
0,5
0
0,03
0,02
0,02
0,04
0,09
0,01
0,03
2004
2005
2006
2007
2008
2009
2010


Indice MFGP x 10-6
Trabalhadores
1,5
1
0,5
0
0,09
0,05
0,03
0,13
0,03
0,03
0,03
2004
2005
2006
2007
2008
2009
2010


Indice MFGP x 10-6
Utilizadores PN
1,5
1
0,5
0
0,72
0,32
0,48
0,51
0,38
0,42
0,28
2004
2005
2006
2007
2008
2009
2010


Indice MFGP x 10-6
Pessoas não autorizadas
R² = 0,95
1,5
1
0,5
0
1,19
0,9
0,9
0,82
0,6
0,35
0,25
2004
2005
2006
2007
2008
2009
2010


Indice MFGP x 10-6
Outras pessoas
1,5
1
0,5
0
0
0,03
0,01
0
0
0
0
2004
2005
2006
2007
2008
2009
2010

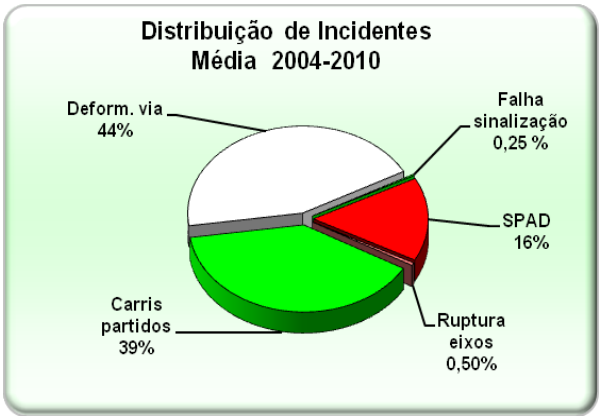
D.3.6 – Accident precursors

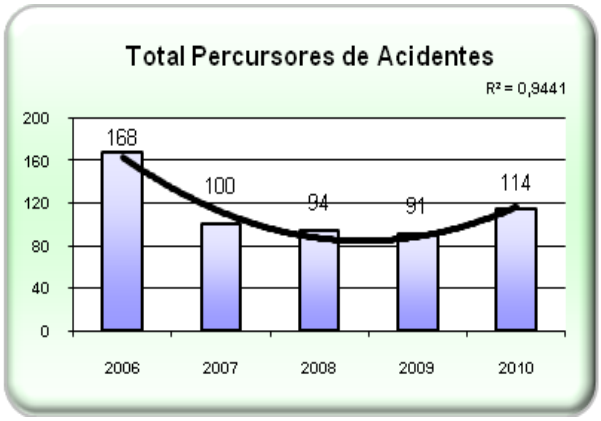
Accident precursors	2006	2007	2008	2009	2010	Average
Total number of incidents and near misses	168	100	94	91	114	**80**
Broken rails	45	39	33	35	50	**32**
Track buckles	95	40	37	44	56	**36**
Wrong side signalling failures	0	0	0	0	1	**0.2**
Signals passed at danger (SPAD)	24	20	24	12	6	**12**
Broken wheels on rolling stock	1	0	0	0	0	**0**
Faulty axles on rolling stock	3	1	0	0	1	**0.4**

After continually dropping since 2006, total accident precursors (incidents and near misses) saw a trend reversal in 2010, due to a significant increase in broken rails and track buckles.

In regard to the average distribution of accident precursors in 2006, there are three main categories: track buckles, broken rails and SPADs.

Note that SPADs, one of the most dangerous accident precursors, have tended to fall and 2010 saw the lowest number on record since 2006.





Distribuição de Incidentes Média 2004-2010	Distribution of Incidents: Average 2004-2010
Defrom.via 44%	Track buckles 44%
Carris partidos 39%	Broken rails 39%
Falha sinalização	Signal failures
SPAD	SPAD (signals passed at danger)
Ruptura eixos	Faulty axles

Total Percursores de Acidentes	Total Accident Precursors

D.3.7 – Cost of accidents

Cost of accidents (EUR million)	2006	2007	2008	2009	2010	Average
Total cost	**52.11**	**60.25**	**47.69**	**33.59**	**26.29**	**43.99**
Fatalities	47.24	54.96	40.54	30.32	21.2	**38.85**
Injuries	3.93	4.31	5.03	2.28	2.06	**3.52**
Cost of replacing or repairing damaged rolling stock and infrastructure	n.a.	n.a.	0.75	0.6	2.243	**1.20**
Cost of delays	0.94	0.98	1.37	0.39	0.79	**0.90**

The cost of accidents was determined using the method developed by the ERA for calculating common safety indicators. The method entails calculating the cost of accidents by taking account of the value society attributes to preventing accidents causing fatalities, serious injuries and delay to passenger and goods trains (see details in Annex C).

The figures were calculated by considering the values defined for Portugal in Tables 1, 2 and 3 of Annex C, corrected on a linear basis by the factor of growth in per capita GDP between 2002 and 2010, i.e. 1.2.

Bearing in mind that in 2010 there was a significant drop in the number of fatalities (the category with the highest proportional accident cost (81%)) by comparison with 2009, the year-on-year cost of accidents in 2010 fell significantly (- 22 %).

Distribuição de custos de acidentes 2010	Distribution of accident costs 2010
Mortos	Fatalities
Feridos Graves	Serious Injuries
Reparação MC +IF	Repairs to RS + INF
Atrasos	Delays

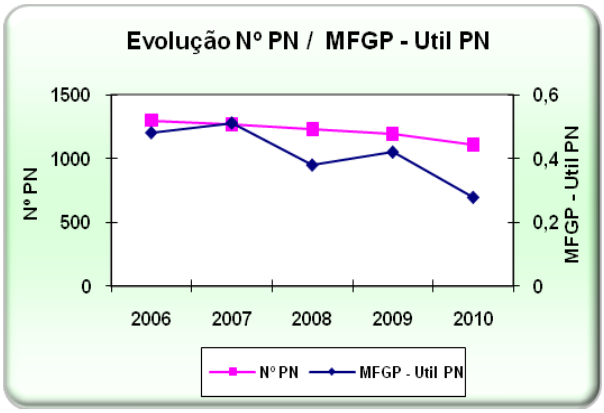
D.3.8 – Indicators relating to infrastructure technical safety and its implementation.

Indicators relating to infrastructure technical safety and its implementation	2006	2007	2008	2009	2010
% of lines with Automatic Train Protection (ATP) systems in operation	50.3%	50.8%	51.3%	51.3%	52.6%
% of tk travelled using operational ATP systems	90.0%	90.0%	90.0%	90.0%	90.0%
Total number of LCs	1297	1266	1229	1191	1107
Number of LCs per kilometre of track	0.37	0.36	0.35	0.34	0.31
Number of LCs per kilometre of line	0.46	0.45	0.43	0.42	0.39
% of LCs with automatic or manual protection	39.3%	38.2%	37.3%	39.7%	41.9%

Indicators relating to the technical safety of infrastructure in 2010 continued to show a slight improvement compared to previous years and a consistent improvement in technical safety on the railways over the last few years.

This improvement in the safety conditions of infrastructure may correlate with and have a direct influence on the downward trend in the number of accidents and victims recorded over the last few years.

The category that has shown the greatest improvement as a result of significant investment is Level Crossings. The chart opposite shows that the drop in the number of level crossings is directly related to reducing the negative social impact they have in terms of the number of level crossing user fatalities and serious injuries.



Evolução N° PN / MFGP –Util PN	Changes in number of LCs / LC FWSI Index
N° PN	No. of LCs
MFGP. Util PN	LC FWSI Index

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

E – RELEVANT AMENDMENTS TO LEGISLATION AND REGULATIONS

E.1 – National Legislation

The most significant legislative change in 2010 was the publication of Decree Law 62/2001 of 9 June which complemented Decree Law 270/2003, transposing into the national legislation Directive 2009/149/EC of 7 November, relating to Common Safety Indicators.

In terms of the national railway safety legislation published, of particular note are the IMTT Regulations implementing Decree Law No 270/2003, amended by Decree Law No 231/2007, i.e.:

- Regulation No 442/2010 for issuing safety authorisations.
- Regulation No 443/2010 for issuing safety certificates.

E.2 – Technical Safety Regulations

The most significant documents published by the IMTT and drawn up for the development of compulsory technical safety regulations were the following:

- **Addendum 43 to General Safety Regulations II – Signals** Clarifies the procedures at points: “16.5.1 – Clear track with differentiated speeds” and “16.5.2 – Clear track with conditional speed”.
- **Addendum 28 to General Safety Regulations III – Rail Traffic**
  Implements a new Speed Limit model that is established at stations automatically by a computerised system.
- **General Safety Regulations XII – Tracks prohibited to traffic**

  Replaces version 01 of September 2002 after changes in the competences of duty officers on track prohibited to traffic, and in particular the “Job Manager” and the “Barred Track Controller”.

F – DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION

F.1 – National Legislation

Decree Law No 231/2007, which introduced the amendments to Decree Law No 270/2003 necessary to transpose Safety Directive 2004/49/CE of 29.04.2006, came into force on 14 June 2007. That date therefore marked the beginning of a new scheme for the safety certification of rail transport undertakings, making it obligatory for the infrastructure manager to obtain safety authorisation for conducting management activities.

The relevant documentation for safety certification and authorisation procedures can be found on the IMTT website.

Other supporting documentation that may be required for applications, such as a list of railway-related legislation and regulations, was published in the Network Directory (REFER). Applicants can obtain these safety regulatory documents from REFER on request.

F.2 – Numerical data

Portugal issued its first Railway Safety Certificate in 2007 in response to an application submitted by the rail transport undertaking Fertagus on 10 November 2006. The certificate was issued on 10 May 2007 under the safety certification arrangements created by Decree Law No 270/2003, which transposed Directive 2001/14/EC of 26 February.

Parts A and B of the first safety certificates were issued in 2008 by the IMTT, in accordance with the new legal regime, continuing this process in 2009 (CP Carga), due to the founding of a new undertaking and the development and expansion of geographic activities of yet another undertaking (TAKARGO).

In 2010, safety certification activities intensified with the renewal and issuing of amended certificates to undertakings already certificated, and the process for issuing the initial safety certification for CP and Fertagus, which already fell within the scope of Directive 49/2004. The process for issuing REFER's safety authorisation was also commenced in 2010.

Numeric data concerning developments in safety certifications and authorisations in 2010 are given in Annex E.

F.3 – Procedural aspects

Applications for Safety Certificate Part A, confirming the existence of an approved safety management system, were assessed according to criteria harmonised at European level in 2008 and developed by a European Railway Agency Working Group in which the IMTT plays a part. This work ultimately resulted in the publication of community regulations 1158/2010/EU and 1169/2010/EU, defining Common Safety Methods for assessing conformity with the requirements so that the respective safety certificates and authorisation could be issued.

Applications for Safety Certificate Part B were examined according to assessment criteria set out in documents produced by the abovementioned ERA Working Group and in Commission Regulation (EC) No 653/2007 of 13 June 2007 (On the use of a common European format for safety certificates and application documents in accordance with Article 10 of Directive 2004/49/EC of the European Parliament and of the Council and on the validity of safety certificates issued under Directive 2001/14/EC) and Regulation 1158/2010/EU.

Safety authorisation applications were examined on the basis of Regulation 1169/2010/EU, defining the Common Safety Methods for assessing conformity with the requirements for issuing safety authorisations.

Applications continued to be assessed rapidly and certificates issued speedily, thanks to effective dialogue and closer relations between IMTT and the railway undertakings, and this was well below the legally permitted period of four months.

G – SUPERVISION OF RAIL TRANSPORT UNDERTAKINGS AND THE INFRASTRUCTURE MANAGER

G.1 – Description of supervision

Various procedures are used in supervising the activities of the infrastructure manager and railway undertakings:

- Analysis of occurrences recorded in the Daily Traffic Report drawn up by REFER;
- Planned monitoring;
- Monitoring initiated after analysing events relating to accidents or incidents, claims/complaints or board of enquiry recommendations;
- Safety Management System audits.

Monitoring is always carried out by IMTT staff, who may ask personnel from the undertakings under inspection for assistance in carrying out the work necessary for such monitoring.

G.2 – Annual safety reports by rail transport undertakings and the infrastructure manager

April 2009 saw the publication of regulatory documents setting out the framework necessary to harmonise the way in which all undertakings submit their annual safety reports. The documents published were: IET 78 – Report Template, IET 79 – Definitions for the analysis of common safety indicators, and ICET 179 - Table of Common Safety Indicators. These documents follow the recommendations and guidelines produced by the European Railway Agency.

On 9 June 2010, Decree Law 62/2010 was published and laid down the common safety indicators with definitions and calculation methods, completing the necessary legal framework for preparing annual safety reports harmonised at community level.

In compliance with their legal obligations, the undertakings produced and submitted their safety reports for 2010 to the IMTT, although not all met the legal deadline.

In regard to compliance with the legal requirements concerning the content of the report, the quality and format of the information provided was generally compliant with the regulatory requirements, making the reports easier to understand and analyse.

G.3 – Supervision activities

During 2010, supervision and inspection activities were conducted by monitoring events in railway operation on a daily basis, and inspecting the activities of undertakings. The Secretary of State for Transport also launched an enquiry into the safety of coal transport activities between Porto de Sines and the Pego Power Station, following a series of incidents and accidents involving 933-0 series wagons.

The main supervisory operations are detailed below:

- In respect of new sections of line brought into operation:

- Supervising the commissioning of the Alcácer Rail Bypass
- Supervising the commissioning of the Trofa Rail Bypass
- Supervising the commissioning of the Porto de Aveiro Siding

- In respect of railway operation:

- Inspecting the infrastructure and siding access management at Portucel and Celbi

- In respect of the enquiry into the operational safety of Tejo Energia wagons:

- Inspecting wagon loading and unloading conditions at Sines and Pego
- Inspecting wagon maintenance and overhaul activities in the workshops at Entroncamento and Poceirão.
- Inspecting the axle-box and bearing maintenance and overhaul activities in the workshops at Entroncamento and Poceirão.
- Interviewing the management staff of the owner, wagon manufacturer, bearing manufacturer, maintenance service provider and commercial services operator.
- Examining and analysing the documentation.

Each of these supervisory activities was conducted by two or three staff members of the four people who normally carry out this type of work, which takes up around 10% of working hours for Railway Infrastructure and Equipment Department staff.

G.4 – Corrective action

As a result of supervisory and inspection activities, both the infrastructure manager and transport undertakings implemented corrective actions, such as:

- Changes in the procedures whereby wagons enter, remain in and exit the Celbi and Portucel sidings at Louriçal.
- Corrections to irregularities detected during inspection of the new sections.
- Improvement in the procedures for overhauling wagons and maintaining bearings and axle-boxes.
- Improvement in the analytical processes for checking the condition and useful life of bearings.
- Temporary load and speed restrictions on 933-0 series wagons.

H – Application of the Common Safety Method for Risk Identification and Assessment

There were no concrete instances in 2010 of the application of the Common Safety Method.

I – Conclusions

In terms of railway safety, occurrences worth noting in 2010 include the following:

- There were sharp drops in the number of fatalities (- 23%) and in the overall weighted risk of fatalities and serious injuries (FWSI: -24.5%) by comparison with 2009, continuing the clearly downward trend in these indicators over the last seven years.
- There was a sharp drop in the number of suicides (down by 26% on the 2009 figure), reversing the upward trend over the last few years, although the figure is still high and very much higher than the total fatalities caused by accidents (51 as opposed to 22).
- Two goods train derailments resulted in heavy material losses and interrupted rail traffic on the Northern and Southern lines. They occurred in Ovar on the Northern line and Alcácer do Sal on the Southern line, giving rise to an IMTT enquiry into the causes of incidents and accidents involving 933-0 series coal transport wagons.
- By comparison with 2009, the number of signals passed at danger (SPAD) was halved. The same thing happened between 2008 and 2009, which indicates that drivers are receiving better training and are under closer supervision.
- For safety reasons, traffic continued to be suspended along most of the Tua line and on the Corgo and Tâmega lines and the Figueira da Foz branch line.
- There was an improvement in the infrastructure technical safety indicators, albeit slight, with a reduction in the number of level crossings and an improvement in the safety conditions at the remaining crossings, leading to a drop in crossing-related accident figures.
- CP commenced the formal process for obtaining safety certification and REFER began the procedure for obtaining safety authorisation.
- IMTT Regulations No 442 and 443 were published, formalising the procedures for safety authorisation and certification.
- Decree Law No 62/2010 was published, laying down the definitions relating to Common Safety Indicators.

IMTT railway safety priorities for 2011/2012 include the following:

- to complete and publish the regulations defined in Decree Law No 231/2007 of 14 June, necessary for implementing safety certification and authorisation;
- to conclude the updating of the Technical Safety Regulations;
- to continue to support undertakings in developing their safety management systems by disseminating national and community legislation and the initiatives carried out by the ERA.
- to intensify supervision activities through the implementation of audits on the safety management systems used by railway undertakings.
- to continue the activities involved in certificating safety management systems and authorising the use of new subsystems in such a way as to avoid restricting the normal activities of railway undertakings.
- to continue examining and approving the Technical Safety Regulations necessary to ensure the safe operation of present-day railway networks.

J – BIBLIOGRAPHY

- Template - Structure for the content of the NSA Annual Report: ERA - Network of National Safety Authorities
- Guideline for the use of the template – Structure for the content of the NSA Annual Safety Report: ERA - Network of National Safety Authorities
- Guidance for use of CSI´s recommendation - WG on Common Safety Indicators/Safety Performance
- Annual Safety Report 2010 – REFER
- Annual Safety Report 2010 – CP – COMBOIOS DE PORTUGAL
- Annual Safety Report 2010 – CP CARGA
- Annual Safety Report 2010 – FERTAGUS
- Annual Safety Report 2010 – TAKARGO

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

L - ANNEXES

ANNEX A – INFORMATION ON THE STRUCTURE OF THE RAILWAY SYSTEM

ANNEX B – INFORMATION ON THE ORGANISATION OF THE IMTT

ANNEX C – COMMON SAFETY INDICATORS AND DEFINITIONS USED

ANNEX D – RELEVANT AMENDMENTS TO LEGISLATION AND REGULATIONS

ANNEX E – DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION

ANNEX F – SIGNIFICANT ACCIDENTS - 2010

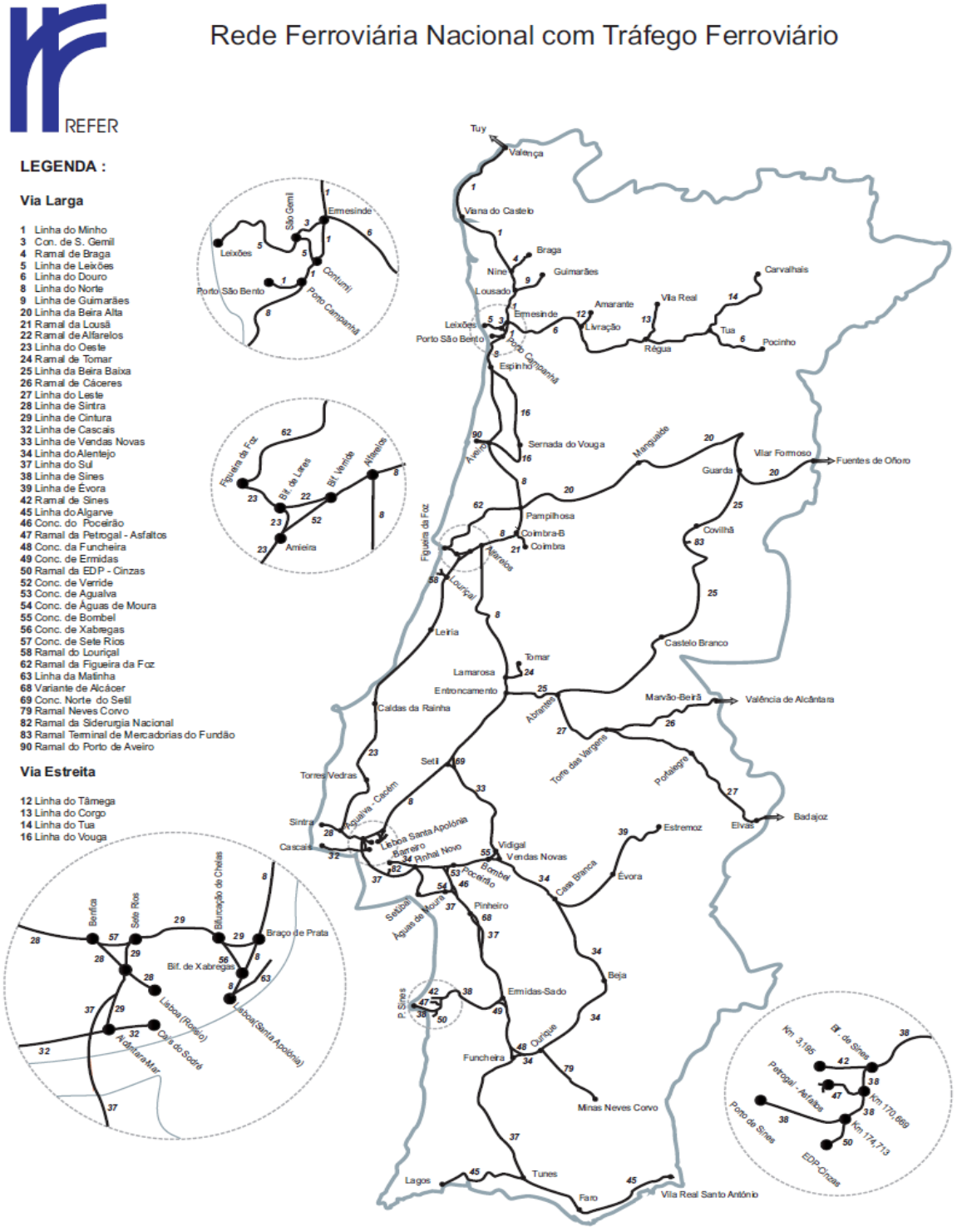
Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

ANNEX A

INFORMATION ON THE STRUCTURE OF THE RAILWAY SYSTEM

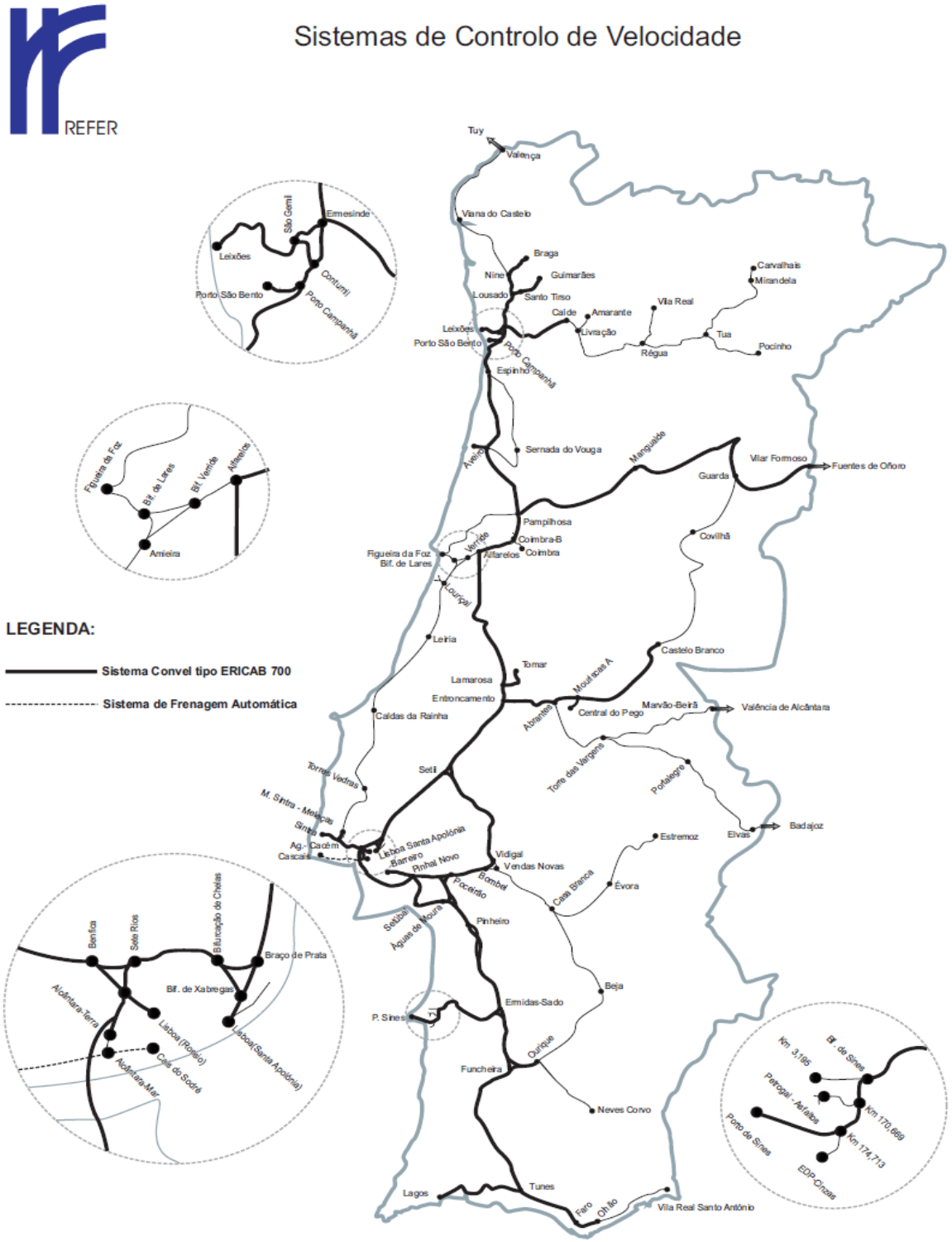
2010

A.1 – Map of the National Railway Network



National Railway Network open to Traffic

A.1.1 – Map of Automatic Speed Control Systems



Speed Control Systems

Key to Map A.1 above:

Rede Ferroviária Nacional com Tráfego Ferroviário	National Rail Network open to traffic
Legenda	Key
Via larga	Broad gauge
Via estreita	Narrow gauge

Key to Map A.1.1 above:

Sistemas de Controlo de Velocidade	Speed control systems
Legenda	Key
Sistema Convel tipo ERICAB 700	ERICAB 700 Convel system (ATP)
Sistema de Frenagem Automática	Automatic braking system

A.2 – List of infrastructure management and rail transport undertakings

A.2.1 – Infrastructure Manager

Description	Information
Name	REFER, Rede Ferroviária Nacional, E.P.
Address	Estação de Santa Apolónia, 1100-105 Lisboa, Portugal
Website	www.refer.pt
Safety Authorisation (DL No 270/2003, as amended by Decree Law No 231/2007 of 14 June)	Not yet issued
Date of commencement of activity	29 April 1997
Length of network open to traffic	Total: 2 842.99 km Broad gauge track (1668 mm): 2 651.191km Narrow gauge track (1000 mm): 191.799 km
Length of lines by number of tracks	Multiple track: 609.935 km Single track: 2233.055 km
Length of electrified network	Total: 1 488.144 km 25 000 V_{AC}: 1 462.644 km 1 500 V_{DC}: 25.5 km % of network open to traffic: 52.3 %
Length of lines equipped with CONVEL/ATP:	1 487.356 km % of network open to traffic: 52.3 %
Length of lines equipped with ground-train radio:	1 487.596 km % of network open to traffic: 52.3 %
Number of level crossings (including private and pedestrian)	1 107 LCs Density: 0.39 LC / km of line 0.31 LC / km of track
Level crossings with automatic or manual protection	464 LCs % of total LCs: 41.9 %
Number of trains on network	Total: 724 355 (includes empty stock movements) Passengers: 653 471(includes empty stock movements) Goods: 70 884 (includes empty stock movements)
Train km run on network (tk)	Total: 40.00x 10^6 Passengers: 32.49 x 10^6 Goods: 7.51x 10^6
% tk with CONVEL/ATP in operation	90 %
No. of hours worked on company business	N

A.2.2 – Railway Undertakings

A.2.2.1 – CP – Caminhos-de-ferro Portugueses, E.P.E.

Description	Information
Name	CP – Comboios de Portugal, EPE
Address	Calçada do Duque, n.º 20 1249-109 Lisboa Portugal
Website	www.cp.pt
Licence to begin activity (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	PT 01 2010 0001 – International passengers PT 01 2010 0002 – National passengers PT 01 2010 0003 – Regional passengers PT 01 2010 0004 – Suburban passengers
Safety Certificate (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	Not yet awarded
Date of commencement of activity	09 May 1951
Type of traffic	Passengers
Number of locomotives	Total: 103 (Diesel: 49, Electric: 53)
Number of railcars	Total: 245 (Diesel:48; Electric: 197)
Number of carriages	103
Number of drivers	781
Number of driver's assistants	6
Number of commercial operators with safety-related responsibilities	657
Number of trains used	Passengers: 529 086 (includes empty stock movements)
Train km travelled (tk)	Passengers: 30.67x 10^6 (includes empty stock movements)
% of tk travelled with CONVEL / ATP in operation	99,7 %
Number of passenger km (pk)	3 718 x 10^6
Number of hours worked on company business	6 032 900

A.2.2.2 – FERTAGUS, S.A.

Description	Information
Name	FERTAGUS, Travessia do Tejo, Transportes, S.A.
Address	Estação do Pragal Porta 23 2805-333 Almada Portugal
Website	www.fertagus.pt
Licence to begin activity (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	Licence No 01 of 09 June 2006
Safety Certificate (DL n.º 270 / 2003 of 28 October)	Safety Certificate No 1/2007
Date of commencement of activity	29 July 1999
Type of traffic	Passengers
Number of railcars	Electric: 18
Number of drivers	46
Number of driver's assistants	Not applicable
Number of commercial operators with safety-related responsibilities	73
Number of trains used	Passengers: 55 935 (includes empty stock movements)
Train km travelled (tk)	Passengers: 1. 784 x 10^6
Number of passenger km (pk)	392 648 x 10^6
% of tk travelled with CONVEL/ATP in operation	99.99 %
Number of hours worked on company business	321 128 h

A.2.2.3 – TAKARGO, Transporte de Mercadorias, S.A.

Description	Information
Name	TAKARGO, Transporte de Mercadorias, S.A.
Address	Rua Mário Dionísio, nº 2 2799 – 557 Linda-a-Velha Portugal
Website	Not available
Licence to begin activity (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	Licence No 02 of 01 March 2008
Safety Certificate (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	Part A - PT 11 2008 0001 (1st issue) Part B - PT 12 2008 0001 (1st issue)
Date of commencement of activity	25 September 2008
Type of traffic	Goods
Number of locomotives	Diesel: 9
Number of wagons	138
Number of drivers	14
Number of driver's assistants	10
Number of trains used	Goods: 1882 (includes empty stock movements)
Train km travelled (tk)	Goods : 284 029 X 10^6
Number of tonnes x km (pk)	94.8 x 10^6
% of tk travelled with CONVEL/ATP in operation	79 %
Number of hours worked on company business	106 156 h

A.2.2.4 – CP Carga – Logística e Transporte Ferroviário de Mercadorias S.A.

Description	Information
Name	CP Carga – Logística e Transporte Ferroviário de Mercadorias S.A.
Address	Calçada do Duque, n.º 20 1249-110 Lisboa Portugal
Website	www.cpcarga.pt
Licence to begin activity (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	Licença: PT 01 2009 01 – National Goods PT 01 2009 02 – International Goods
Safety Certificate (DL n.º 270 / 2003, as amended by DL No 231/2007 of 14 June)	Part A – PT 11 2009 0002 (1st issue) Part B – PT 12 2009 0012 (1st issue)
Date of commencement of activity	01 August 2009
Type of traffic	Goods
Number of locomotives	Total: 93 (Diesel: 48, Electric: 45)
Number of wagons	3246
Number of drivers	249
Number of driver's assistants	155
Number of trains used	Goods: 44 071
Train km travelled (tk)	Goods: 6.6 x 10^6
% of tk travelled with CONVEL / ATP in operation	99.3 %
Number of tonnes x km (tk)	2 008 x 10^6
Number of hours worked on company business	1 522 833

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

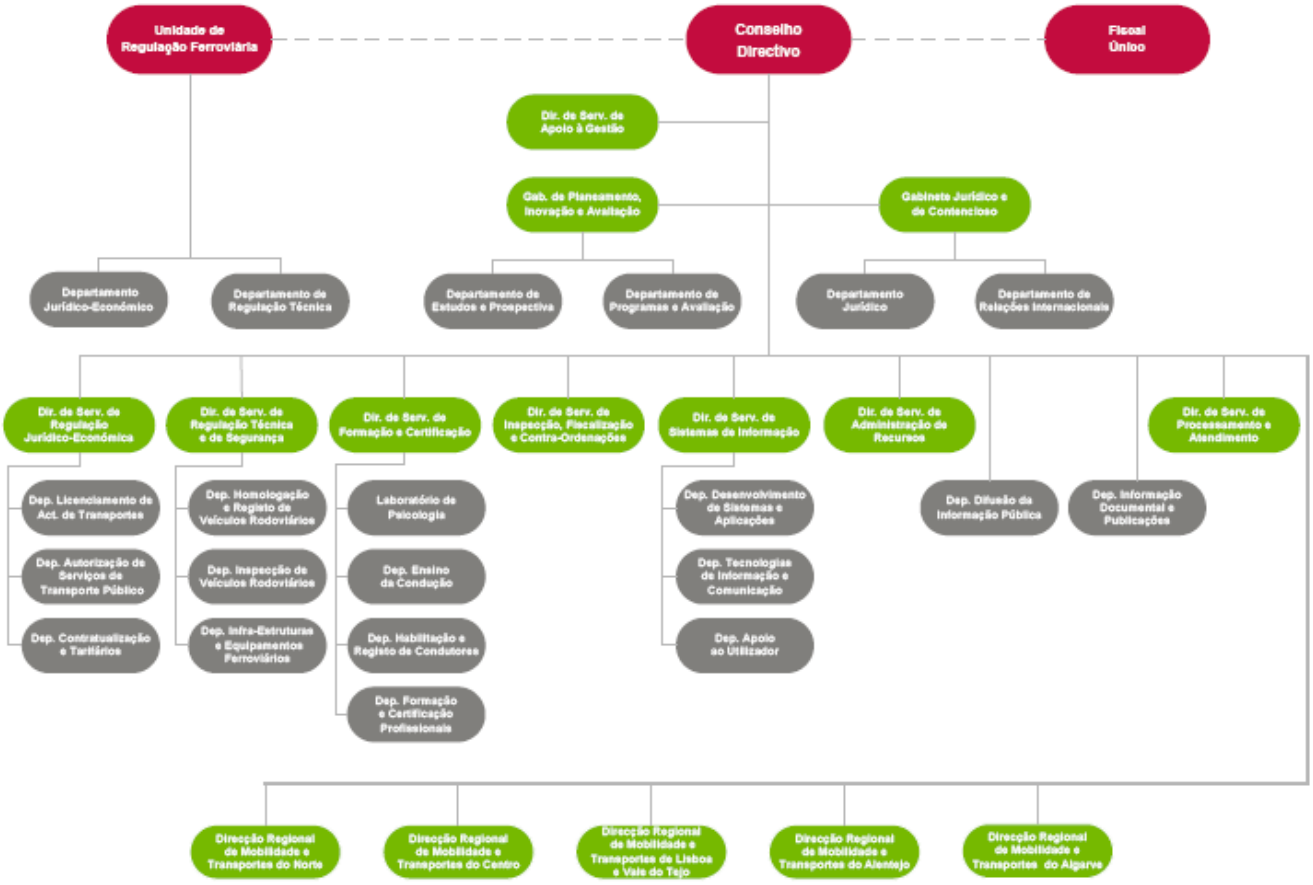
ANNEX B

INFORMATION ON THE ORGANISATION OF THE IMTT

2010

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

B.1 – Organisational structure of the IMTT

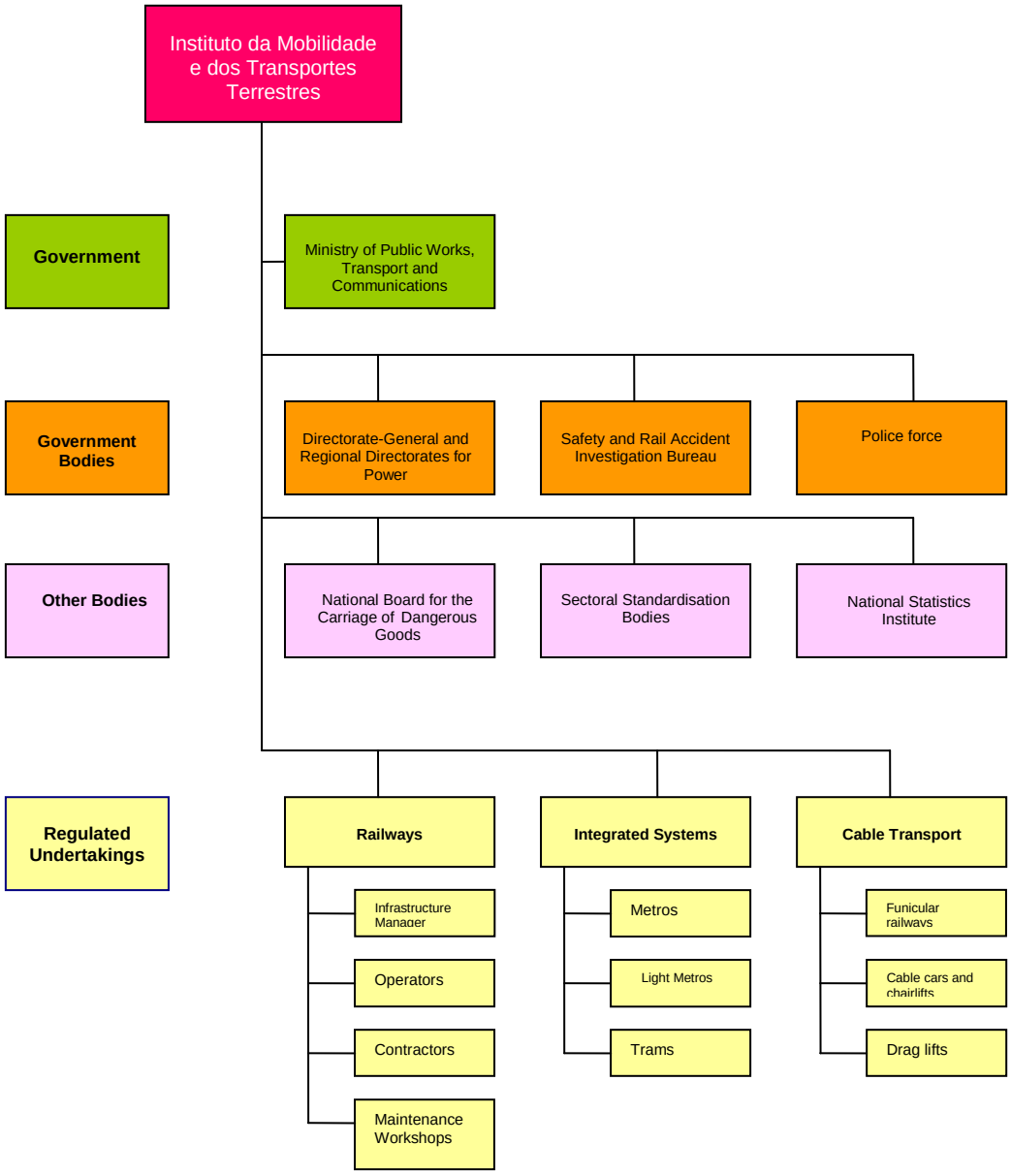


Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

Key to organisation chart on previous page (B1)

Unidade de Regulação Ferroviário	Railway Regulatory Unit
Conselho Directivo	Board of Directors
Fiscal Unloo	Inspectors
Div. de Serv. de Apoyo à Gestão	Management Support Division
Gab. de Planeamento, Inovação e Avaliação	Planning, Innovation and Assessment Bureau
Gabinete Jurídico e de Contencioso	Legal Affairs and Litigation Office
Departmento Jurídico-Económico	Department for Legal and Economic Affairs
Departmento de Regulação Técnica	Technical Regulatory Department
Departmento de Estudos y Prospectiva	Department for Research and Future Development
Departmento de Programas e Avaliação	Programme and Assessment Department
Departmento Jurídico	Legal Department
Departmento de Relações Internacionais	Department for International Relations
Div. de Serv. de Regulação Jurídico-Económico	Legal and Economic Affairs Regulatory Services Division
Div. de Serv. de Regulação Técnica e de Segurança	Technical and Safety Regulatory Services Division
Div. de Serv. de Formação e Certificação	Training and Certification Division
Div. de Serv. de Inspecção, Fiscalização e Contra-Ordenações	Inspection, Monitoring and Administrative Offences Division
Div. de Serv. de Sistemas de Informação	Information Systems Division
Div. de Serv. de Administração de Recursos	Resources Administration Division
Div. de Serv. de Processamento e Atendimento	Processing and Customer Services Division
Dep. Licenciamento de Act. de Transportes	Transport Licensing Department
Dep. Homologação e Registo de Veículos Rodoviários	Road Vehicle Authorisation and Registration Department
Laboratório de Psicologia	Psychology Laboratory
Dep. Desenvolvimento de Sistemas e Aplicações	Department of Systems and Applications Development
Dep. Difusão de Informação Pública	Public Information Department
Dep. Informação Documental e Publicações	Documentary Information and Publications Department
Dep. Autorização de Serviços de Transportes Públicas	Public Transport Services Authorisation Department
Dep. Inspecção de Veículos Rodoviários	Road Vehicle Inspection Department
Dep. Ensino da Condução	Driver Training Department
Dep. Tecnologías de Informação e Comunicação	Information and Communication Technology Department
Dep. Contratualização e Tarifários	Department of Contracting and Pricing
Dep. Infra-Estruturas e Equipamentos Ferroviários	Railway Infrastructure and Equipment Department
Dep. Habilitação e Registo de Condutores	Driver Testing and Registration Department
Dep. Apoio ao Utilizador	User Support Department
Dep. Formação e Certificação Profissionais	Vocational Training and Certification Department
Direcção Regional de Mobilidade e Transportes do Norte	Regional Directorate for Mobility and Transport (North)
Direcção Regional de Mobilidade e Transportes do Centro	Regional Directorate for Mobility and Transport (Centre)
Direcção Regional de Mobilidade e Transportes de Lisboa e Vale do Tejo	Regional Directorate for Mobility and Transport (Lisbon and Vale do Tejo)
Direcção Regional de Mobilidade e Transportes do Alentejo	Regional Directorate for Mobility and Transport (Alentejo)
Direcção Regional de Mobilidade e Transportes do Algarve	Regional Directorate for Mobility and Transport (Algarve)

B.2 – IMTT relations with other bodies in connection with railway safety



Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

ANNEX C

COMMON SAFETY INDICATORS AND DEFINITIONS USED

2010

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

C.1 – Common Safety Indicators 2010

Number of accidents and breakdown by type		Per million tk
Total of accidents	42	1.05
Train collisions, including collisions with obstacles within the clearance gauge	2	0.05
Train derailments	3	0.08
Accidents at level crossings (LCs), including accidents involving pedestrians	14	0.35
Accidents to persons caused by rolling stock in motion, excluding suicides	22	0.55
Fires in rolling stock	0	0
Other accidents	1	0.03

Total number of suspected suicides		Per million tk
Suicides	51	1.28

Number of fatalities and breakdown by type of victim		Per million tk	Per million pk
Total number of fatalities	22	0.55	
Passengers	1	0.03	0.0002
Employees (including the staff of contractors)	1	0.03	
Level crossing (LC) users	11	0.28	
Unauthorised persons on railway property	9	0.23	
Others	0	0	

Number of fatalities and breakdown by type of accident		Per million tk
Total number of persons killed	22	0.55
In train collisions	0	0
In train derailments	0	0
In accidents at LCs, including accidents involving pedestrians	11	0.28
In accidents to persons caused by rolling stock in motion, excluding suicides	11	0.28
In fires in rolling stock	0	0
In other accidents	0	0

Number of serious injuries and breakdown by type of victim		Per million tk	Per million pk
Total number of serious injuries	16	0.4	
Passengers	3	0.08	0.0007
Employees (including the staff of contractors)	2	0.05	
Level crossing (LC) users	3	0.08	
Unauthorised persons on railway premises	8	0.2	
Others	0	0	

Number of serious injuries and breakdown by accident type		Per million tk
Total number of serious injuries	16	0.4
In train collisions, including collisions with obstacles within the clearance gauge	0	0
In train derailments	0	0
In accidents at LCs, including accidents involving pedestrians	3	0.08
In accidents to persons caused by rolling stock in motion, excluding suicides	13	0.33
In fires in rolling stock	0	0
In other accidents	0	0

Number of incidents and near-misses and breakdown by type		Per million tk
Total number of incidents and near-misses	114	2.85
Broken rails	50	1.25
Track buckles	56	1.4
Wrong-side signalling failures	1	0.03
Signals passed at danger	6	0.15
Wheels broken in rolling stock during operation	0	0
Faulty axles in rolling stock during operation	1	0.03

Cost of accidents (million Euros)		Per million tk
Total cost	26.29	0.66
Cost of fatalities	21.2	0.53
Cost of injuries	2.06	0.05
Cost of replacing or repairing damaged rolling stock or infrastructure	2.243	0.06
Cost of delays, disruptions and rerouting of traffic, including additional personnel expenditure and loss of profits	0.79	0.02

Indicators relating to technical safety of infrastructure and its implementation	
% of lines with Automatic Train Protection systems (ATP) in operation	52.6%
% tk travelled using ATP systems in operation	90.0%
No of Level Crossings (LC)	
Active LCs - Warning and/or Automated User Protection	
Automatic warning to users	35
Automated user protection	0
Automatic warning and automated user protection	340
Automatic warning and automated user protection and automatic train protection	0
Active LCs – Manual Control with Warning and/or User Protection	
Manual warning to users	2
Manual user protection	70
Warning and manual user protection	17
Total Active Level Crossings	464
Total Passive Level Crossings	643
Total LCs (Active + Passive)	1107
No of LCs per kilometre of track	0.31
No of LCs per kilometre of line	0.39
% LCs with automatic or manual protection	41.9%

Reference data	
N° of train km (million tk)	40.00
N° of passenger km (million pk)	4111.6
N° of km of track (km of multiple lines multiplied by no of tracks)	3530.976
N° of km of line in operation	2842.444

Table C.1.1 – Summary of Common Safety Indicators

C.2 – Definitions used

The definitions used in the common safety indicators and the common method for calculating the economic impact of the cost of accidents can be found in Decree Law 62/2010 of 9 June, transposing Directive 2009/149/EC of 27 November into the national legislation.

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

ANNEX D

RELEVANT AMENDMENTS TO LEGISLATION AND REGULATIONS

2010

National legislation	Legal reference	Date of entry into force	Reason for introduction	Description
Legislation on the national safety authority	-	-	-	-
Legislation on bodies notified, assessors, third parties for registration, investigations, etc.	-	-	-	-
National Railway Safety Rules				
Rules on national safety methods and objectives	-	-	-	-
Rules laying down requirements for safety management systems and safety certification of railway undertakings	IMTT Regulation No 443/2010	17.05.2010	Implementation of Dec. Law 270/2003	Regulations with procedures necessary for obtaining the Safety Certificate
Rules laying down requirements for safety management systems and safety authorisation of the Infrastructure Manager	IMTT Regulation No 442/2010	17.05.2010	Implementation of Dec. Law 270/2003	Regulations with procedures necessary for obtaining the safety authorisation
Rules laying down requirements for owners of rolling stock	-	-	-	-
Rules laying down requirements for wagon maintenance workshops	-	-	-	-
Rules laying down requirements for authorisation to bring into service and maintain rolling stock or modified stock, including rules for operators to exchange rolling stock, registration systems and requirements for test procedures	-	-	-	-
General traffic rules for the rail network, including rules on signalling and traffic procedures	Addendum 43 to GSR II – Signals	10.12.2010	Improving train operating conditions	Clarification of procedures regarding: 'Clear track with differentiated speeds' and 'Clear track with conditional speed'
	Addendum 28 to GSR III – Movement of trains	08.03.2010	Improving operating and safety conditions	Implementation of a new Speed Limit model established in stations automatically by a computerised system
	RGS XII – Tracks blocked to traffic	01.07.2010	Improving safety conditions for working on barred tracks	Changes in the competences of officers on duty on barred tracks

Rules laying down requirements for internal operating rules (company rules) to be laid down by the infrastructure manager and operators.	-	-	-	-
Rules relating to requirements for staff carrying out safety-related activities, including selection criteria, physical aptitude and vocational training and certification	-	-	-	-
Rules relating to the investigation of accidents and incidents, including recommendations	-	-	-	-
Rules laying down requirements for national safety indicators, including how to collect and analyse such indicators	Decree Law 62/2010	09.06.2010	Standardising the criteria for analysing safety indicators	Transposes Directive 2009/149 relating to Common Safety Indicators into the national legislation
Rules laying down requirements for authorising the entry into service of infrastructure (lines, bridges, tunnels, power, ATC, radio, signalling, interlock systems, level crossings, platforms, etc.)	-	-	-	-

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

ANNEX E

DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION

2010

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

E.1 – Safety Certificates under Directive 2004/49/CE

Table E.1.1		New	Amended/Revised	Renewed
No of Safety Certificates – **Part A** issued in 2010 to:	Undertakings licensed in Portugal	-	-	1
	Undertakings licensed in another Member State	-	-	-

Table E.1.2		New	Amended/Revised	Renewed
No of Safety Certificates - **Part B** issued in 2010 to:	Undertakings licensed in Portugal	-	**4**	**1**
	Undertakings licensed in another Member State	-	-	-

Table E.1.3			Accepted*	Rejected*	Pending*
No of Safety Certificate applications – **Part A** submitted in 2010 by:	Undertakings licensed in Portugal	New Certificates	-	-	**2**
		Certificates amended/revised	-	-	-
		Certificate renewals	**1**	-	-
	Undertakings licensed in another Member State	New Certificates	-	-	-
		Certificates amended/revised	-	-	-
		Certificate renewals	-	-	-

Table E.1.4			Accepted*	Rejected*	Pending*
No of Safety Certificate applications – **Part B** submitted in 2010 by:	Undertakings licensed in Portugal	New Certificates	-	-	**2**
		Certificates amended/revised	**4**	-	-
		Certificate renewals	**1**	-	-
	Undertakings licensed in another Member State	New Certificates	-	-	-
		Certificates amended/revised	-	-	-
		Certificate renewals	-	-	-

Note (*) – Accepted: application accepted and certificate issued
Rejected: application rejected and certificate not issued
Pending: application being examined, certificate not yet issued

E.2.5 – Countries in which railway undertakings applying for Safety Certificate – Part B obtained Safety Certificate – Part A:

- Portugal

E.3 – Safety authorisation under Directive 2004/49/EC

Table E.3.1	New	Amended/Revised	Renewed
No of Safety Authorisations issued in 2010 to infrastructure management undertakings	-	-	-
	-	-	-

Table E.3.2		Accepted*	Rejected*	Pending*
No of Safety Authorisation applications submitted in 2010 by infrastructure management undertakings	New authorisations	-	-	1
	Authorisation amendments/revisions	-	-	-
	Authorisation renewals	-	-	-

Note (*) – Accepted: application accepted and certificate issued
Rejected: application rejected and certificate not issued
Pending: application being examined, certificate not yet issued

E.4 – Safety Certificates – Part A: procedures

		New	Amended/Revised	Renewed
Average time in 2010 for issuing a Safety Certificate – Part A, after receipt of all necessary documentation	Undertakings licensed in Portugal	-	-	**1 month**
	Undertakings licensed in another Member State	-	-	-

E.5 – Safety Certificates – Part B: procedures

		New	Amended/Revised	Renewed
Average time in 2010 for issuing a Safety Certificate – Part B, after receipt of all necessary documentation	Undertakings licensed in Portugal	-	**1 week**	**1 month**
	Undertakings licensed in another Member State	-	-	-

E.6 – Safety Authorisation: procedures

	New	Amended/Revised	Renewed
Average time for issuing a Safety Authorisation in 2010, after receipt of all necessary documentation	-	-	-

Instituto da Mobilidade
e dos Transportes Terrestres, I.P.

ANNEX F

Significant Accidents

2010

Significant Accidents - 2010

Date	Time	Train	Line	Place (Pk)	Description
17-01-2010	09.02	18307	SINTRA	17 650	The driver reported that at the crossing at PK 17 650 the train came into contact with one of the employees of XXXXX, working on the renovation of the Agualva-Cacém station, under service order 157. The train stopped at the location and those in charge of the work indicated that the driver should continue, since the situation was not apparently serious. A call was subsequently made to the Emergency Services (INEM), who provided assistance to the employee on the spot and took him to the Hospital with a fractured left arm.
06-01-2010	08.42	599	NORTH-ERN	6 480	CP Longo Curso reported that engine 1944, on arrival at Train 599 at 08.37 to turn around, shunted from line No II to the GI and from the GI to line III, where it collided with the rear of train 180, parked for the passenger service. Since the CPA 4005 was damaged, CPLC decided that it should continue on train 130 to Lx SA and CPA 4010, on reaching train 130, continued on train 180. Engine 1944 sustained damage to the hoses and remained parked in siding I. The shunting operations were monitored by CP LC personnel. No-one was injured.
02-02-2010	09.00	3115	MINHO	79 000	The Emergency Services (INEM) reported the discovery of the mutilated body of a man on the side of the track at PK 79 000. The time of the accident and the train that might have caused it were unknown. The designated Local Emergency Coordinator (GLE) reported that there were clear indications that the individual had been hit at PK 78 950 by a train heading up the line. Traffic was switched to 'proceed on sight' at the location. The body was removed at 10.30, after the arrival of the authorities. There were no identification documents. The Viana do Castelo Public Security Police (PSP) took charge of the case.
08-02-2010	15.50	5722	ALGAR VE	39 5140	The train indicated hit a car at the Category 5 LC. The vehicle impact was on the right in the direction in which the train was travelling. Inside the vehicle was the sole occupant (driver) who died on the spot. The V.R. Stº. António National Republican Guard (GNR) and the Emergency Services (INEM) were alerted and the Supervisor suspended traffic between Cacela and V.R.St.º António from 16.00 to 18.35, when the body and vehicle were removed from the track.
09-02-2010	09.33	5621	BEIRA BAIXA	63 373	At the LC indicated, train 5621 collided with a vehicle that had gone round the half-barrier, on the left-hand side of the up line. The driver of the vehicle was unharmed. The second occupant (female) was injured, and was released by the fire service of V.V. de Ródão and transported by the Emergency Services (INEM) to the C. Branco Hospital. The car was dragged along the rails for around 50 m after the collision, ending up between lines I and II of Ródão station, and was lifted over line I at 10.30, freeing up the track. The engine suffered damage to the coupling, at the side of cab 1. There was no damage to the track, as confirmed by the Infrastructure Supervisor.

11-02-2010	00.20	81385	SOUTH-ERN	81 900	The train stopped at the Pk indicated because, on passing through the Alcácer do Sal station, it was observed to be running with a tight wheel frame in flames. The driver was ordered to stop and check the wheel frame, and reported that on wagon 4961136-8 (in 4th position), on bogie No 3, wheel frame No 2, there was a damaged and unserviceable bearing, requesting assistance at the rear. Engine 4716 on 96237 followed; Poceirão 01.40 = Alcácer do Sal 02.13, to remove the 5 rear wagons. The assistance train arrived at the location at 04.05 and the power was cut off in accordance with P.A.T.E. No 09/2010 from 04.22 to 06.36, to place the wagon wheel frame on supports and transport it to Alcácer do Sal.
17-02-2010	14.57	5209	VOUGA	24 975	Train stopped because it hit a male individual walking on the line. The person hit suffered injuries from the accident and was transported to the Hospital S. Sebastião in Vila da Feira by the Emergency Services (INEM). The Public Security Police (PSP) from S. João da Madeira took charge of the case.
28-02-2010	18.43	5213	VOUGA	22 875	Collision with a vehicle on the right side in the direction of travel. This resulted in damage to the UDD and the vehicle, a Toyota Yaris. The vehicle driver and sole occupant was transported to the Santa Maria da Feira hospital by the Arrifana Fire Service. The automatic barrier support, which was being assembled, was also damaged. After the driver had corrected a deficiency in the compressed air system, the train continued its journey at 19.55.
04-03-2010	12.11	124	NORTH-ERN	300 581	The train stopped at Km 300 500 after colliding with a male individual on the right in the direction of travel. The body was thrown off the track. CDOS was notified. Traffic was authorised on track A at 12.30 and track D at 12.45. As a precaution, traffic was placed on ‘proceed on sight’ in the locality until 14.50, when the body was removed. The traffic manager from Ovar, the National Republican Guard (GNR) and the Ovar Fire Service came to the scene. According to information from a station officer, the crossing was operating normally.
17-03-2010	7.51	932	NORTH-ERN	66 225	Train 932 stopped at the PK indicated after hitting a woman on the pedestrian crossing at Vale de Santarém station. The National Republican Guard (GNR) and the Emergency Services (INEM) from Santarém came to the scene. Track A was open to traffic with ‘proceed on sight’ in force at the location. At 08.55, track D was authorised for traffic, subject to caution at the location for cleaning up the track. The Local Emergency Coordinator (GLE) was designated. According to information from the driver, this was not a suicide case. Restrictions on tracks A and D were lifted at 09.55.
18-03-2010	4.55	64313	NORTH-ERN	329 500	A female individual was hit and thrown onto the side of the track. She was killed instantly. The Emergency Services (INEM) were alerted and came to the scene, together with the Public Security Police (PSP) and the Gaia Fire Service. The train continued its journey at 06.23, after authorisation from the Public Security Police (PSP). Temporary traffic was allowed on a single track (track D) from 05.59 to 06.23h. During the period concerned all trains ran on a ‘proceed on sight’ basis on tracks A and D between km 329 300 and 329 500. The track was cleared for traffic as from 06.50 after removal of the body by the Fire Service. The REFER Local Emergency Coordinator (GLE) was not present at the accident location. According to information provided by the driver, the woman was sitting in the station at Madalena, got up and was hit by the train. This accident subsequently caused damage to the engine as described in incident 80580.

23-03-2010	19.47	5680	BEIRA BAIXA	106 874	Train 5680 hit and injured an individual on leaving Alcains station. According to information provided by the driver, it was an accident, since the individual was walking on the walkway parallel to the line and did not notice the train coming, despite the fact that the horn was sounded. The Emergency Services (INEM) were called and transported the individual to the Castelo Branco Hospital. The Alcains National Republican Guard (GNR) to charge of the case.
19-04-2010	10.12	181	SOUTH-ERN	112 000	The train stopped at the Pk indicado from 10.13 to 11.18 after hitting a female individual who was crossing the track near Canal Caveira points No 2. The following were notified: 112, PI, PCC, UOS, CP LC and CP Carga SA. Traffic was suspended from 10.12 to 11.45 between Canal Caveira and Lousal, to remove the remains and clean up the track. The Infrastructure Supervisor was designated Local Emergency Coordinator (GLE). The accident happened near Canal Caveira AMV-2. The track was authorised for traffic at 11.45.
17-05-2010	09.12	6453	WEST-ERN	140 092	The driver reported that at the crossing at PK 17 650, the train came into contact with one of the employees of xxxx, working on renovation of the Agualva-Cacém station under service order 157. The train stopped at the location and those in charge of the work indicated that the driver should continue since the situation was not apparently serious. The Emergency Services (INEM) were later called and assisted the employee on the spot and took him to the Hospital with a fractured left arm. The CCO was made aware of this only through information from the driver, after he had continued the journey.
19-05-2010	22.00	N/D	NORTH-ERN	66 291	CP Longo Curso advised that engine1944, on arrival at Train 599 at 08.37 to turn around, shunted from line No II to the GI and from the GI to line III, where it collided with the rear of train 180, parked for the passenger service. Since the CPA 4005 was damaged, CPLC decided that it should continue on train 130 to Lx SA and the CPA 4010 arriving on train 130 should continue on train 180. Engine 1944 sustained damage to the hoses and remained parked in siding I. The shunting operations were monitored by CP LC personnel. No-one was injured.
25-05-2010	21.16	92217	MINHO	8 430	The Emergency Services (INEM) reported the discovery of the mutilated body of a man on the side of the track at PK 79.000. The time of the accident and the train that might have caused it were unknown. The Local Emergency Coordinator (GLE) reported that there were clear indications that the individual had been hit at PK 78,950 by a train heading up the line. Traffic was switched to 'proceed on sight' at the location. The body was removed at 10.30, after the arrival of the authorities. There were no identification documents. The Viana do Castelo Public Security Police (PSP) took charge of the case. Train 850, on train 851, was inspected by the Public Security Police (PSP) at the Viana do Castelo station. Train 75311 was inspected by the crew on arrival at Valença.
07-06-2010	12.23	92246	MINHO	50 690	The train indicated hit a car at the Category 5 LC. The vehicle impact was on the right in the direction in which the train was travelling. Inside the vehicle was the sole occupant (driver) who died on the spot. The V.R. Stº. António National Republican Guard (GNR) and the Emergency Services (INEM) were alerted and the Supervisor suspended traffic between Cacela and V.R.St.º António from 16:00 to 18:35, when the body and vehicle were removed from the track.

09-06-2010	09.38	312	NORTH-ERN	102 095	At the LC indicated, train 5621 collided with a vehicle that had gone round the half-barrier on the left-hand side of the up line. The driver of the vehicle was unharmed. The second occupant (female) was injured. She was released by the Fire Service from V.V. de Ródão and transported by the Emergency Services (INEM) to C. Branco Hospital. The car was dragged along the rails for around 50 m after the collision, ending up between lines I and II at Ródão station. It was lifted over line I at 10:30, freeing up the track. The engine suffered damage to the coupling, at the side of cab 1. There was no damage to the track, as confirmed by the Infrastructure Supervisor. The Local Emergency Coordinator (GLE) was designated and monitored the assistance provided at the location. The National Republican Guard (GNR) from V. V. de Ródão arrived. The damaged half barrier on the left of the LC was replaced. The vehicle was finally towed off the track at 12h05, and the track reopened with no restrictions.
15-06-2010	16.20	15933	NORTH-ERN	320 394	The Emergency Services (INEM) were awaited to attend to a passenger who had fallen when getting off the train. According to CP, the victim was hospitalised for over 24 hours.
15-07-2010	10.30	19221	CASCAIS	9 793	A female individual was fatally hit on a pedestrian track crossing and the body mutilated in a number of locations. Traffic was suspended on both tracks at the request of CDOS. The Movement Inspector was designated Local Emergency Coordinator (GLE). At 11H15 the body was removed to the side of the track. Trains ran in 'proceed on sight' mode on both tracks. Inattention of the victim on crossing the track to get to the platforms. A group of three women were crossing the track. The victim of the fatality was 89 years old. A second woman was slightly injured. The third was unhurt.
16-07-2010	17.32	51335	NORTH-ERN	297 200	For reasons as yet unknown, train 51335, consisting of 18 vehicles, was derailed at the pk indicated. Traffic was immediately suspended on both tracks between Estarreja and Ovar. Later, at around 17.40., the support operator notified damage to the catenary over some 250 m, damaged catenary posts, the up line contact wire lying over the down line track and 9 non-consecutive vehicles derailed and leaning towards the down line track with only one of them within the gauge. At around 17.48, the power was connected to the down line track between Estarreja/Salreu; at around 18.17 the power was connected to tracks A and D from Aguda to Ovar and at around 18.28 the power connected to the up line Salreu/Estarreja track. VCC 107, the assistance train and VCC 108 were sent to the location on engines 92288, 92284 and 92282 respectively. A diesel engine from Gaia was also sent on the 92290 to remove engine 51335 and 5 non-derailed vehicles at the head of the train from the location, including the hazardous materials vehicle (hydrogen peroxide in aqueous solution) whose presence had been communicated to the Civil Defence. Around 21.30, the power was connected to the Ovar/Estarreja down line track and traffic reinstated on the down line at 21.40, with speed restricted to 10km/h at the incident location.
12-08-2010	18.08	50383	VENDAS NOVAS	12 274	An individual telephoned 919583969 to report a mutilated body on the track at the Level Crossing indicated. The following were notified: UOS and PCC Infrastructure Staff. After confirmation by the Marinhais National Republican Guard (GNR), rail traffic was suspended between signal S2 and Marinhais Station. The Traffic Inspector was designated Local Emergency Coordinator (GLE) and advised that it was the body of a man who, according to information from the National Republican Guard (GNR), was travelling in a car from the left-hand side in the up line direction and had hit the half barrier (which was bent and therefore

					replaced), and presumably train 50383. The crew of the train said that they had not noticed anything abnormal. At Poceirão, the train was inspected by the crew, Traction Inspector and Equipment Overhaul officer, but no trace of the incident could be detected. The body was removed from REFER property by the authorities at 19.50 and the track authorised for rail traffic at 20.00.
25-08-2010	11.42	17100	ALENTEJO	4 800	The driver of train 17100 reported hitting a male individual at pk. 4 800 on the Alentejo line. The individual was assisted on the spot by the Emergency Services (INEM) and taken at 12.10 to the Barreiro hospital. The Moita National Republican Guard (GNR) took charge of the case. The train continued on its journey at 12.17. At this location, there is a pedestrian LC not indicated on the gate (LCs). The Barreiro Hospital was contacted on 08-09-2010. The victim DIED after hospitalisation.
26-08-2010	19.50	5914	ALGARVE	301 889	On getting off a moving train, on the left-hand side in the direction of travel, a male passenger with a ticket purchased in Faro for travel to Tunes fell onto platform number 1 at the Tunes station and injured his face and left leg. First aid was provided by the Messines Voluntary Fire Service and he was taken to the Albufeira Health Centre.
27-08-2010	11.30	620	NORTH-ERN	74 400	After completion of a cooperative rear shunt operation on the train and resumption of normal operation, three passengers got off the moving train, the last of whom fell onto the platform. Assistance was provided by the Emergency Services (INEM) who were called to the location. Trains 122 and 4413 switched to 'proceed on sight' so that assistance could be provided by the Emergency Services (INEM). The Movement Inspector was advised. SGEX confirmed the death of the passenger.
04-09-2010	12.13	122	NORTH-ERN	29 887	The train hit a female individual who was thrown off the track. The V.F.Xira Public Security Police (PSP) and Emergency Services (INEM) were called and took the victim to the Hospital at V.F.Xira.
17-09-2010	07.26	4504	NORTH-ERN	213 790	The driver of the train reported fatally hitting a male individual on the LC at the PK indicated, the body remaining on the track D platform at Espadaneira. Traffic was suspended on track D between Coimbra-B and Alfarelos. At the location, track A traffic was ordered to 'proceed on sight'. The Local Emergency Coordinator (GLE) was designated. The Coimbra Public Security Police (PSP) took charge of the incident. Train 4504 continued on its way at 8h10. Traffic was reinstated on track D between Coimbra-B and Alfarelos at 08.13 with 'proceed on sight' at the incident location. The body was removed from the location at 09.00 and restrictions lifted on tracks A and D. It was concluded that the individual was not paying attention.
28-09-2010	15.50	543	BEIRA BAIXA	63 548	Mr xxxx reported that at the Rodão station there was a male individual lying on the track with an injured arm and that the Rodão Fire Service were already on the spot providing first aid. The driver and ORV of train 543, the last train to pass the spot, said that the passenger service had been running normally and they had seen nothing unusual. The victim was taken by Emergency Services (INEM) helicopter to Coimbra Hospital at 17.20. The Rodão National Republican Guard (GNR) took charge of the case. According to witnesses, the individual was a passenger and was injured when he got off the train. The Rodão BVs were present.

01-10-2010	09.19	93741	NORTH-ERN	211 159	Train 4507 awaited the Emergency Services (INEM) to assist an elderly female passenger who had been struck by the 16807 when she was crossing from line II to line I on the north side of the station, at a location with no crossing. Train personnel did not notice the incident. The passenger had an injured foot and was taken to hospital. According to the Movement Inspector, the victim was hurrying to catch the train. Her feet were injured but not broken. The ORV reported that, on arriving at Taveiro, train 4507 hit a woman sitting on the up line platform, whose left leg was significantly injured from knee to foot and there were some scratches on the right leg. According to information gathered at the location by the ORV of train 4507, this woman crossed the lines at the north end of the platform from track D to track A, with the intention of boarding train 16807 and is thought to have been hit by this train, although the train crew did not notice anything unusual. The Taveiro National Republican Guard (GNR) and the Emergency Services (INEM) were at the scene at took the woman to the Covões Hospital.
10-10-2010	15.10		WESTE RN	36 227	At the Type B automatic LC at PK 36,227, the train collided with a car on its left, resulting in two fatalities, one male and the other female, occupants of a lightweight vehicle, and causing damage to the UM 358 and the car. Traffic was suspended between Pero Negro and Mafra and road transport provided between the two stations. The Emergency Services (INEM) and Malveira National Republican Guard (GNR) came to the scene. At 16.30, assistance was requested at the rear of the 11924 and later cancelled. In the SATA system, there was no record of a fault or damage at the level crossing.
14-10-2010	19.48	5912	ALGAR VE	328 700	CAT Central reported that train 5912 had hit a male individual at Pk 328,700. The victim was walking on the track on the left in the direction of train travel. He lay on the side of the track, still alive, with head injuries. The Emergency Services (INEM), Lagoa National Republican Guard (GNR), Setubal PI, PCC and UOS were notified. The train continued its journey at 20h24. The track supervisor (ENC) arrived at the scene and asked for train 5917 to remain at the location, for a public meeting. At 20h50, he reported that the situation at the scene had returned to normal, and the victim had been taken to the Barlavento Algarvio Hospital. He was discharged from the Portimão Hospital on 24-10-2010.
26-10-2010	13.15	66852	SOUTH-ERN	78 247	Full derailment of seven wagons loaded with coal (13th to 19th - 9330010-8, 9330006-6, 9330081-9, 9330021-5, 9330028-0, 9330035-5, 9330041-3), the 20th remaining on the rails. The train consisted of 20 wagons with a payload of 1736t. At around 13.15, a catenary disconnection occurred between the Monte Novo de Palma substation ZN and the Grândola ZN, busying the CE808 axle counter. Train traffic between Alcácer do Sal and Vale Guizo was suspended from 13.20. The power was cut off between Monte Novo Palma and Vale de Guizo at 13.40 (PATE 33/210). No-one was injured. There was damage to the catenary and the track between Pk. 82380 (beginning of the derailment) and Pk.78750. Between PK. 78750 and 78550, the track was totally destroyed. The cross-members on the Alcácer do Sal bridge were all broken. The incident was reported to the PCC, UOS, PRT and Regional Infrastructure Office. The UOS Local Emergency Coordinator (GLE) was designated. CP/LC and Regional passengers were transported by road between the stations of Grândola and Setúbal / Lisboa Oriente. The power was reconnected at 16.00 to remove train 66852 from Alcácer do Sal, with the power remaining disconnected between the stations of Alcácer do Sal and Vale Guizo (Pate 34/2010). Power was reconnected at 16.40 and the power switched off once again as

					from 16.40, between Monte Novo Palma and Vale Guizo (Pate 35/2010). The assistance train came out from Barreiro on train 91275, Barreiro 15.20 = Alcácer do Sal 16.17, where it arrived at 16.54. From Entroncamento, train 95274/5 set out with the GY-21 for Poceirão, where it continued on train 96229, Poceirão 19.55 = Alcácer do Sal 20.30. It arrived in Alcácer do Sal at 22.25. PCL Setúbal announced the end of the derailment incident at 08.30 on 30/10/2010. The stock is parked at the Alcácer do Sal station. Work on the track and catenary continues.
29-10-2010	13.00	6705	ALENTEJO	143 759	According to information from the CP-Regional Inspector, the train stopped at PK 143,800 after hitting a large car that was stationary on the type D LC at PK 143,759. The road vehicle was a Volvo, registration number 91-CJ-11, driven by João Carlos Aresta. The following were notified: Infrastructure Office, PCC and the Head of Setúbal PCL, designated Local Emergency Coordinator (GLE). Two occupants of the car were injured in the accident and taken by the Emergency Services (INEM) to the Beja Hospital. Assistance from the front was requested due to damage to the engine. The car was removed from the track at 15.05. CP-Regional personnel arrived at 18.30 to verify the operating conditions of the engine. It continued its journey at 21.00, reaching Beja at 21.28. The track was authorised for traffic at 21.00.
03-11-2010	20.13	5915	ALGARVE	337 890	PCL was notified by the Emergency Services (INEM) that between the Hotel Ibís, near the LC at PK 338 043, a person near the line had been hit by a train. Suspension of traffic was requested so that a search could be conducted, and at PK 337,890, a male individual aged between 25 and 30 was found with serious injuries. He was given first aid and taken by Emergency Services (INEM) to the local hospital. The crew of train 5915, the last train to pass the section, was contacted and said that they had felt an impact and checked the train on arriving at Faro but had not found any traces of it. The track was cleared for traffic at 20.30. In Faro, train 5916 awaited the arrival of the ORV who had gone to the scene of the accident. PI and PCC were notified. The individual was trespassing on the railway track. Failure to pay attention. No Local Emergency Coordinator (GLE) was designated.
21-11-2010	1.45	335	CÁCERES SIDING	236 600	Train 335 hit a bovine animal at Pk 236 600 resulting in derailment of the 1st wheel frame on the 4th carriage from the engine (5071 0406008-6). No-one was injured. The animal was removed from under the train at 15.25. The train was set back on the rails at 20.00, and the train continued on to Marvão-Beirã (20.20 arrival) where it arrived at 20.27. The assistance train exited the location at 20.55 and arrived in Marvão-Beirã at 21.05. The draisine left for the accident spot to inspect the track. Traffic was authorised around 22.00, with a speed limit of 10 Km/hr between PK 236 550 and 236 610, a location with no signalling.
22-11-2010	10.04	15718	NORTH-ERN	329 319	A woman was hit and died instantly when she tried to cross the track using the south crossing at the unstaffed station. The body was thrown onto the down line track. The Porto CDOS were alerted and notified the other parties. According to the crew, the woman was going from the platform on the up line track to the down line track, from right to left in the direction of travel. Temporary traffic on a single track (up line) was established after the arrival of train 123 at Gaia, during the period from 10.54 to 11.33. The body was removed at 11.20. The UME went to Contumil to clean train 92219 which left Valadares at 11.59. Normal traffic was resumed at 11.25, after cleaning up the scene. The Campanhã Movement Inspector acted as the Local Emergency Coordinator (GLE). The victim failed to pay attention as she was going over the crossing between the two platforms.

03-12-2010	12.47	66852	SINES	164 296	The train halted at PK 163,200 after hitting a female individual at the Type D Level Crossing at PK 164,296. The Algarve Link Emergency Plan was implemented, since the emergency was classified Category C. The Local Emergency Coordinator (GLE) was designated and arrived at the scene at 13.40, at the same time as the National Republican Guard (GNR) from Santiago do Cacém. They issued instructions to wait for the arrival of NICAV (Transport Accident Criminal Investigation Centre) personnel and the Santiago do Cacém Health Official, who took control of the incident. The following were notified: UOS, PCC, PI-Setúbal, CP-Carga SA, National Republican Guard (GNR), Emergency Services (INEM), CDOS-Setúbal. At 16.15, the body was removed from the track and train Cº 66852 continued on its journey. When it arrived at S. Bartolomeu, the power was disconnected from 16.32 to 17.03 (PATE No 41/2010), so that the track could be cleaned. The victim failed to pay attention on crossing the LC. The victim was elderly.
05-12-2010	21.00	17259	SOUTH-ERN	29 760	Train staff reported a collision with a male individual, near pk 30 000 (exit from line No 1). The victim was injured and taken to the São Bernardo hospital in Setúbal by the Fire Services. The Public Security Police (PSP) of the 2nd Setúbal squadron were called in and took charge of the incident. Train 17259 was authorised by the Public Security Police (PSP) to continue its journey at 21.35, and traffic was suspended at this time between Praias - Sado and Setúbal until 21.47, to pick up the victim. A Local Emergency Coordinator (GLE) was designated and authorised traffic on the track at 21.47. The Category C Emergency Plan was implemented. After calling at the Bernardo Dos Santos Hospital in Setubal, the victim was finally hospitalised at the Garcia de Orta em Almada Hospital at 22.46 and was taken to the Santa Maria Hospital at 23.00 on the same day. The victim was still in hospital on 06/01/2011.
21-12-2010	0.09	16054	NORTH-ERN	17 000	The train stopped at the PK indicated after hitting a male individual who died instantly. The body lay between the rails of track VDL. The Emergency Services (INEM) and Public Security Police (PSP)/CP do Oriente were called and took charge of the incident. The designated Local Emergency Coordinator (GLE) (Infrastructure Operator) came to the scene. The body was removed from the track at 02.30. It is not clear whether the victim committed suicide. The part played by the driver, ORV and engine are not conclusive. All the indications led the CP Operator to consider it an accident. The railway track at the location is sealed off.
24-12-2010	09.25	670	ALGAR VE	325 000	The driver of train 670 reported that at Pk 325,000 on the Algarve line, on the section between Tunes and Vila Real de Santo António, the train hit a male individual who was walking on the right in the direction of travel. The victim was alive, with pains in his body and some injuries. The following were notified: the Emergency Services (INEM), the Loulé National Republican Guard (GNR), PI Setúbal, PCC and UOS. The train continued its journey at 10h10. The Track Supervisor went to the scene and as a precautionary measure, imposed a 10 km/hr speed restriction between Pks 325 000 and 325 100. Normal traffic conditions were resumed at 10.30.
29-12-2010	13.27	5406	LOUSÃ SIDING	0.850	At the PK indicated, a REFER officer (Infrastructure Operator) was hit and thrown off the track with serious injuries. The Emergency Services (INEM) were called and gave assistance at the scene, then took him to the University hospital at 14.00. The Coimbra Public Security Police (PSP) took charge of the incident. The traffic controller on duty at Coimbra station was designated Local Emergency Coordinator (GLE). No work was being carried out at the location.