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

RAIL TRANSPORT

ANNUAL SAFETY REPORT 2011

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

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CONTENTS

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A.1 – Scope

The main aim of this report is to detail the activities of IMTT [Institute for Mobility and Land Transport] in its role as the National Railway Safety Authority during 2011 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, miniature trains, trams and cableways.

A.2 – Summary

The IMTT Annual Safety Report 2011 sets out the activities of the Portuguese National Railway Safety Authority, the Common Safety Indicators for 2011 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 and cableways.

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B – Introduction

B.1 – Introduction to the report

The drafting and publication of this report for 2011 discharges the legal requirement to publish an annual report on rail transport safety, pursuant to Article 66-O of Decree Law No 270/2003, as amended by Decree Law No 231/2007 of 14 June 2007.

This report was produced 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 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 to the report also contains the Common Safety Indicators (CSIs) listed in Annex V to 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, and statistics supplied by INE [National Statistics Institute].

Accident data consistency checking and final confirmation were carried out using a participatory, transparent process involving transport undertakings and the infrastructure manager, and they were given the opportunity to correct and amend the data, thereby 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 manager and rail transport undertakings.

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

B.2 – 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 continued to fall in 2011, in line with the trend over the past few years, and therefore the rail safety results can be considered fairly positive again this year. By comparison with the previous year and the average for the past eight years, there was a drop in the number of accidents and their adverse 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 (-8 ≡ -36%) by comparison with 2010.

Also with regard to suicides, for the second consecutive year, there was a significant reduction in the number of railway-related suicides (-17 compared to 2010 ≡ -23%), which seems to indicate a reversal of the upward trend that occurred between 2004 and 2010.

The number of level crossings (LCs) has gradually continued to decline (-58 compared to 2010 ≡ -5%) and this year saw the lowest number of fatalities since the series of safety indicators began in 2004. The trend of fatalities and serious injuries on LCs indicates that the programme of continuing to reduce the number of level crossings and improving the safety of remaining ones is having a very positive impact on accident rates associated with these crossings.

B.3.2 – Developments in Safety Management

The year 2011 has been a milestone in safety management, as that year all the safety certification and authorisation procedures were completed, which for the first time enabled all transport undertakings and the infrastructure manager to have their safety management systems (SMS) approved pursuant to Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004, transposed into national legislation by Decree-Law No 270/2003 as amended by Decree Law No 231/2007.

This year, Combois de Portugal (CP) obtained the ‘Part A’ and ‘Part B’ safety certificate and REFER obtained the ‘Part A’ and ‘Part B’ safety authorisation.

Also the Fertagus company, which already had a safety certificate issued under Directive 2001/14, was awarded Part A and B safety certificates under Directive 2004/49 after it brought its SMS into line with the requirements of the Directive.

The stage of the development and structuring of the undertakings' SMSs is therefore complete, and one of the IMTT's priorities in the near future will be to monitor their effective implementation and the compliance of the activities carried out, to ensure that safety is properly managed and that the results of management are positive for society.

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C – Organisation of IMTT

Established by Decree-Law No 147/2007 of 27 April 2007, IMTT took over the duties of several defunct bodies connected with land transport of passengers and freight and other related activities (for railways, the National Rail Transport Institute was abolished) and on matters related to drivers, transport staff, rolling stock and railway infrastructure.

IMTT has a Rail Regulation Unit, which is functionally independent and has powers for economic and technical regulation of the sub-sector.

C.1 – Mission

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

Specifically as regards rail safety, IMTT carries out the functions of the National Safety Authority provided for in Directive 2004/49/EC of the Parliament and of the Council of 29 April 2004 on safety on the Community's railways, and to that end has the following statutory powers:

- To approve, ratify and certify rolling stock and equipment used in land transport systems, including railway infrastructure, safeguarding technical and safety standards and authorising and supervising the bodies involved in the certification and inspection processes.
- To grant or refuse approval of safety management systems, applying penalties for inadequate performance.
- To inspect bodies in the land transport sector in the exercise of their activities, ensuring that the relevant system of infringements is applied.
- To decide, in the rail and road sub-sectors, on the introduction of technical improvements, taking account of technological development and with a view to improving safety, operating efficiency and reducing adverse 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 Portugal, IMTT had a labour force of 773 at 31 December 2011.

For the purposes of regulating safety on guided transport systems such as railways, metros, light railways, miniature trains, trams and cable cars, at the end of 2011, IMTT's Railway Infrastructure and Equipment Department, part of the Directorate for Technical Regulation and Safety Services, employed:

- 1 Department Head
- 4 Senior Technical Officers

C.5 – Relations with other agencies

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

D – Development of railway safety

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

Directive 2004/49/EC was transposed into Portuguese law, partially as regards safety aspects, by Decree-Law No 231/2007 of 14 June 2007 which amended Decree-Law 270/2003 of 28 October 2003, establishing mandatory safety certification and authorisation, common safety indicators, objectives and methods, and laying down the safety duties of the rail sector regulator (IMTT).

The transposition of the Directive was completed by Decree-Law No 394/2007 of 31 December 2007 that laid down the duties, powers and procedures of the Rail Safety and Accident investigation bureau (GISAF), for carrying out technical investigations into accidents and incidents. The nature, mission and organisation of GISAF were laid down by Decree-Law No 395/2007 of 31 December 2007.

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 out in Decree-Law No 270/2003, as amended by Decree Law No 231/2007, was not yet completed in 2010, IMTT carried out work on examining safety management system approval and certification applications submitted by the various undertakings, based on the criteria and methods set out in Commission Regulations No 1158/2010/EU and No 1169/2010/EU on a common safety method for assessing conformity with the requirements for obtaining railway safety certificates and safety authorisations respectively. We also took account of the guides and guidelines issued by ERA in the form of published documents and the activities of the working groups in which IMTT participates.

Since the safety certification and authorisation procedure was completed for all the railway undertakings and the infrastructure manager in 2011, respectively, it can be considered that Directive 2004/49/EC is fully implemented.

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D.2 – Initiatives for maintaining or improving safety

The principal initiatives in the field of maintaining and improving rail transport safety are set out in tables D.2.1 and D.2.2, respectively, as a direct result of accidents or other initiatives, new or continuing from previous years, carried out by IMTT or the undertakings.

Table D.2.1 - Principal safety initiatives adopted following accidents.

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
Risk analysis of conditions for crossing the lines at stations and halts of the national railway system	12.06. 2011	north line	Collision with older person at Entroncamento station

Table D.2.2 - Principal safety initiatives adopted for other reasons

Safety initiative	Reason
Maintaining suspension of traffic on the Corgo and Tâmega lines and on the Figueira da Foz branch line and the Beira Baixa line between Covilhã and Guarda	Improvement of operating conditions and traffic safety
Continuing the safety improvement programme for level crossings, eliminating 58 LCs	Eliminating/reducing accidents associated with level crossings.
Improvement of conditions or crossing lines at some stations	Eliminating/reducing accidents associated with crossing lines at stations

D.3 – Analysis of trends

The data presented in this report were analysed and processed based on the common European definitions and methods developed by the European Railway Agency, and laid down in Directive 2009/149/EC of 27 November 2009, amending Annex 1 to Directive 2004/49/EC (Safety Directive), and transposed into national law by Decree Law No 62/2010 of 9 June 2010.

This section of the report provides an analysis of some trends revealed by the Common Safety Indicators over the eight-year period from 2004 to 2011.

It will also provide an analysis of the safety performance of the railway network in 2011 in comparison with the eight-year averages and the previous year's figures.

Annex C contains tables of numeric data, ratios and definitions used in analysing the common safety indicators for 2011.

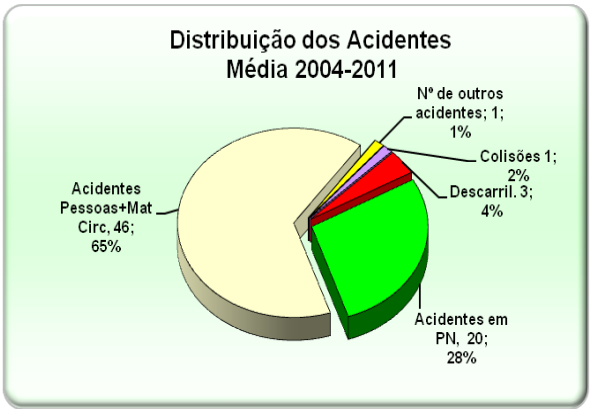
D.3.1 – Number of accidents

Type of accident	2004	2005	2006	2007	2008	2009	2010	2011	Average
Total number of accidents	**115**	**87**	**89**	**93**	**73**	**43**	**42**	**27**	**71**
Train collisions, including collisions with obstacles within the clearance gauge	1	1	3	3	0	0	2	1	**1**
Train derailments	3	1	9	3	3	1	3	2	**3**
Accidents at level crossings, including accidents involving pedestrians	33	22	22	27	20	15	14	7	**20**
Accidents to persons caused by rolling stock in motion, excluding suicides	78	63	55	56	49	27	22	17	**46**
Fires in rolling stock	0	0	0	0	0	0	0	0	**0**
Other accidents	0	0	0	4	1	0	1	0	**1**
Suicides	**25**	**39**	**40**	**52**	**50**	**69**	**51**	**42**	**46**

There was a drop in the number of accidents in 2011, both in comparison with 2010 (-36%) and relative to the average for the last seven years (-65%). This was due mainly to a drop in accidents at level crossings (-65% against the average) and in accidents involving persons caused by rolling stock in motion (-63% against the average).

Over the past eight years, it has become the norm with our railway system and in the rest of Europe for most accidents to occur in the two categories 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, namely collisions, derailments and fires in rolling stock represent only a small proportion of the total (7%), confirming their relatively constant frequency over time.



Legend	*English translation*
Distribuição dos Acidentes Média 2004-2010	Breakdown of accidents Average 2004-2010
Acidentes pessoas+Mat. Circ.: 46; 65%	Accidents to persons + rolling stock: 46; 65%
No. de outros acidentes:1; 1%	Number of other accidents:1; 1%
Colisões:1; 2%	Collisions: 1; 2%
Descarril.:3; 4%	Derailments: 3; 4%
Acidentes em PN, 20; 28%	Accidents at LCs, 20; 28%

For the eighth year running, no accidents were reported due to fires in rolling stock.

The breakdown 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 2004-2011 period and accident trends are given on page 13.

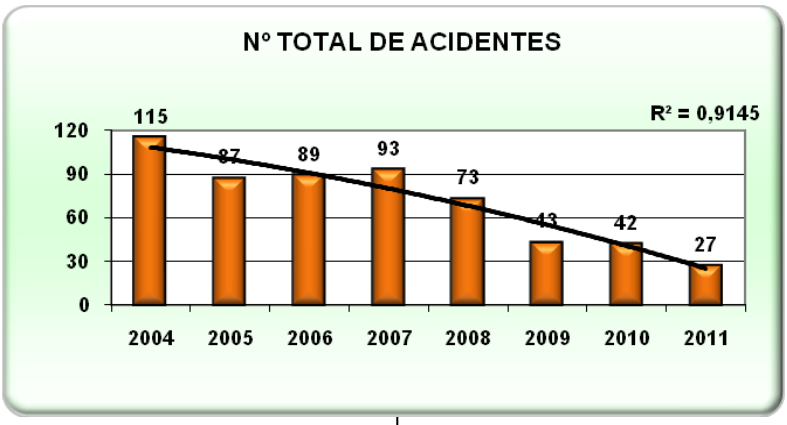
These charts show that there is a clear trend towards lower total accident figures, mainly owing to reductions in the number of the most frequent types: accidents to persons caused by rolling stock in motion and accidents at level crossings.

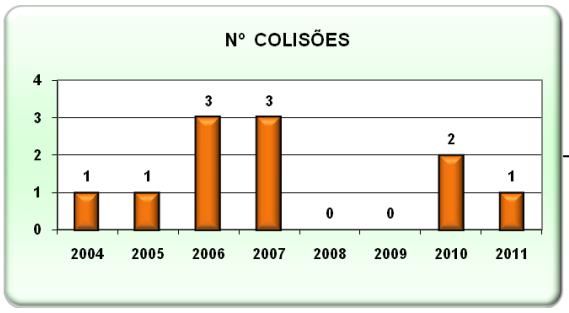
It is also clear from these charts that the drop in the number of accidents at level crossings reflects the positive impact of the accident prevention and crossing improvement programme implemented by the infrastructure manager, as well as the media campaigns for raising public awareness of the dangers.

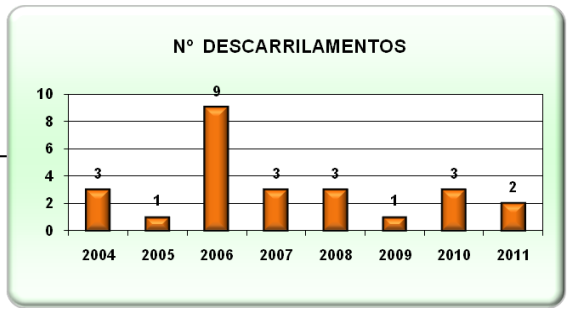
The number of derailments and collisions (with obstacles) in 2011 was within the average, and neither the collision nor the two derailments that occurred caused any harm to humans.

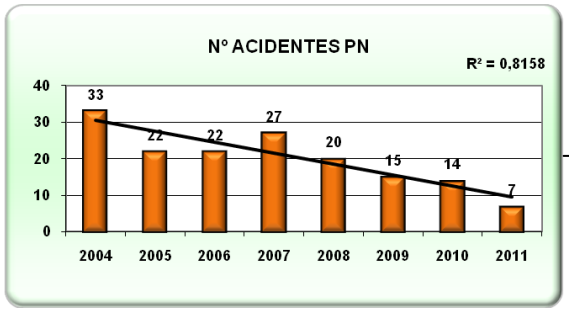
The frequency of other significant accidents not falling within the main categories are still below the threshold of statistical significance.

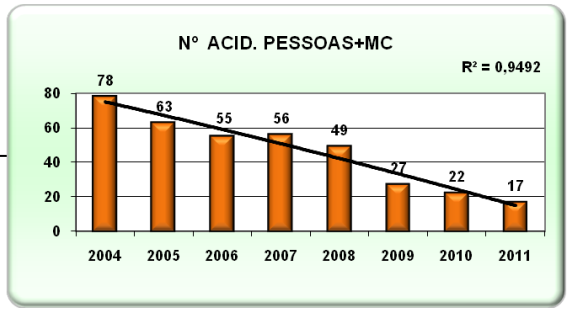
For suicides, which are analysed in detail in section D.3.3., in 2011, as in 2010, there were fewer than in the previous year (-18%), although the number remains higher than the total of all fatalities in accidents (42 versus 14).

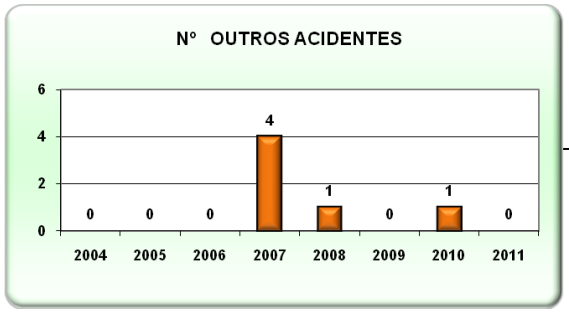

Nº TOTAL DE ACIDENTES
R² = 0,9145
115
87
89
93
73
43
42
27
120
90
60
30
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº COLISÕES
1
1
3
3
0
0
2
1
4
3
2
1
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº DESCARRILAMENTOS
3
1
9
3
3
1
3
2
10
8
6
4
2
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº ACIDENTES PN
R² = 0,8158
33
22
22
27
20
15
14
7
40
30
20
10
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº ACID. PESSOAS+MC
R² = 0,9492
78
63
55
56
49
27
22
17
80
60
40
20
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº OUTROS ACIDENTES
0
0
0
4
1
0
1
0
6
4
2
0
2004
2005
2006
2007
2008
2009
2010
2011

Legend	*English translation*
N° TOTAL DE ACIDENTES	Total No of accidents
N° COLISÕES	No of collisions
N° DESCARRILAMENTOS	No of derailments
N° ACIDENTES PN	No of accidents at LCs
N° ACID. PESSOAS+MC	No accidents persons + rolling stock
N° OUTROS ACIDENTES	No of other accidents

D.3.2 - Fatalities

D.3.2.1 – Fatalities per accident type

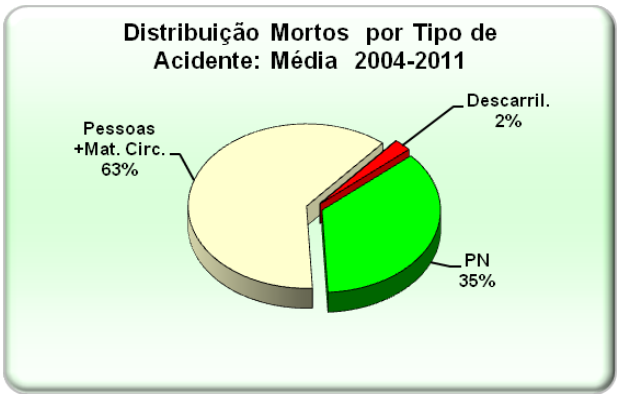
Type of accident	2004	2005	2006	2007	2008	2009	2010	2011	Average
Total for all accidents	**72**	**47**	**53**	**58**	**42**	**32**	**22**	**14**	**43**
Train collisions, including collisions with obstacles within the clearance gauge	0	0	0	0	0	0	0	0	**0**
Train derailments	3	0	0	3	1	0	0	0	**1**
Accidents at level crossings, including accidents involving pedestrians	26	11	18	20	15	17	11	4	**15**
Accidents to persons caused by rolling stock in motion	43	36	35	35	26	15	11	10	**26**
Fires in rolling stock	0	0	0	0	0	0	0	0	**0**
Other accidents	0	0	0	0	0	0	0	0	**0**

In 2011, 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 2010 (seven fewer fatalities), due mainly to a drastic reduction in the number of victims of accidents at level crossings.

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. In 2011 the only fatalities were in these two categories.

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 2011, there were no fatalities as a result of derailments or collisions. Although these types of accident attract more intense media attention and cause greater social impact, they accounted for only 2% of fatalities over the past eight years.

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



Legend	*English translation*
Distribuição Mortos por Tipo de Acidente: Média 2004-2011	Breakdown of fatalities by accident type: Average 2004-2011
Pessoas + Mat. Circ.: 63%	Persons + rolling stock: 63%
Descarril.: 2%	Derailments: 2%
PN: 35%	LCs: 35%

D.3.2.1 – Fatalities by category of person

Category of person	2004	2005	2006	2007	2008	2009	2010	2011	Average
Total of all categories	**72**	**47**	**53**	**58**	**42**	**32**	**22**	**14**	**43**
Passengers	0	0	0	1	3	0	1	0	**1**
Employees	3	2	1	5	1	1	1	0	**2**
LC users	26	11	18	20	15	17	11	4	**15**
Unauthorised persons	43	33	34	32	23	14	9	10	**25**
Others	0	1	0	0	0	0	0	0	**0**

Regarding the type of people killed in railway accidents (see table and chart on this page), there was a significant decrease in 2011 of fatalities among LC users (-7 ≡ -64%) in relation to 2010, when there had already been a major reduction that year. For the first time in the past eight years no passengers or employees died in accidents.

Changes in the figures in comparison to 2010 are indicated below:

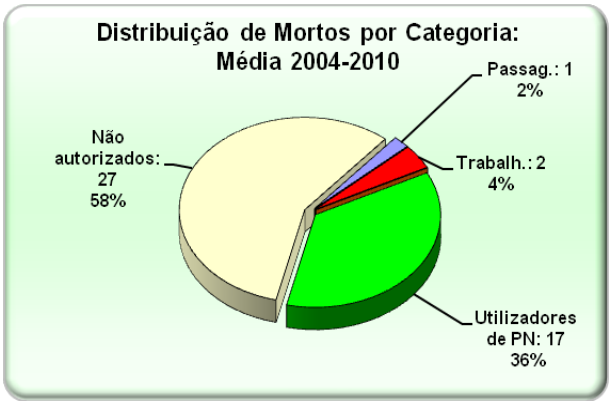
Passengers: -1
Employees: -1
LC users: - 7
Unauthorised persons: + 1
Others: no change (zero)
Total: - 8

The average breakdown over the past seven years shows that the overwhelming majority of fatal accidents involve trespassers on railway property (unauthorised persons) and level crossing users (94%).

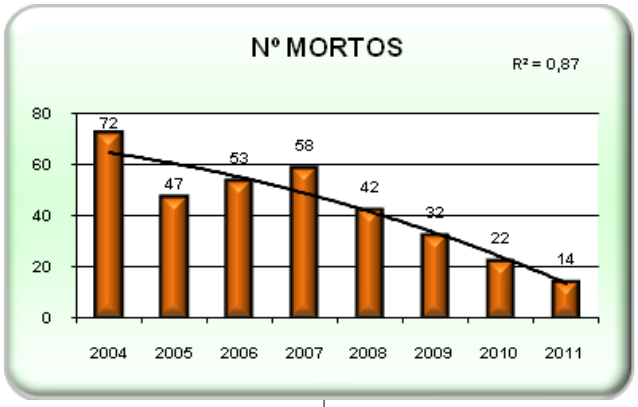
Records show that the transport by rail is particularly safe for users because only 2% of people killed in railway accidents are passengers.

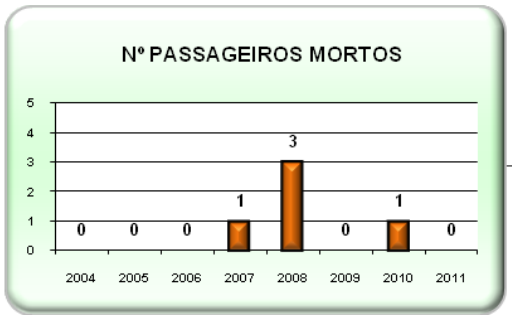
The trend shows a clear and consistent drop in the number of fatalities due to railway accidents (see charts on next page), and this is obviously fairly positive and correlates directly with the measures to eliminate and reduce the number of level crossings.

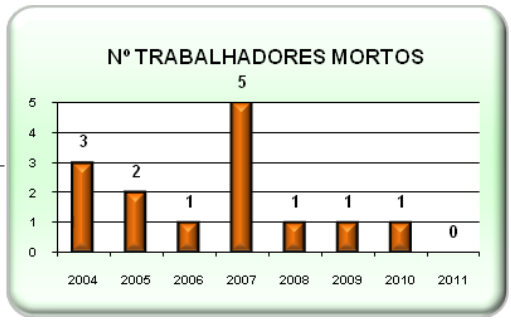
Regarding fatalities at level crossings, we are now starting to see a trend clear and consistent downward trend in the number of fatalities, and the overall risk posed by level crossings to society in general has fallen consistently, as shown in the chart on page 23.

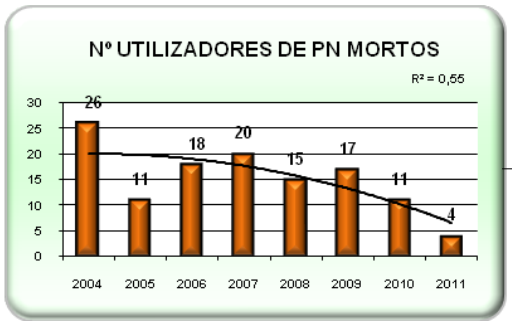


Legend	*English translation*
Distribuição de Mortos por Categoria: Média 2004-2011	Breakdown of fatalities by category: Average 2004-2011
Não autorizados: 27; 58%	Unauthorised persons: 27; 58%
Passag.:1; 2%	Passengers: 1; 2%
Trabalh.: 2; 4%	Employees: 2; 4%
Utilizadores de PN: 17; 36%	LC users: 17; 36%

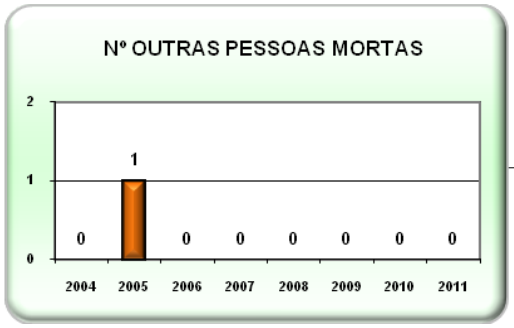

Nº MORTOS
R² = 0,87
80
60
40
20
0
72
47
53
58
42
32
22
14
2004
2005
2006
2007
2008
2009
2010
2011


Nº PASSAGEIROS MORTOS
5
4
3
2
1
0
0
0
0
1
3
0
1
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº TRABALHADORES MORTOS
5
4
3
2
1
0
3
2
1
5
1
1
1
0
2004
2005
2006
2007
2008
2009
2010
2011


Nº UTILIZADORES DE PN MORTOS
R² = 0,55
30
25
20
15
10
5
0
26
11
18
20
15
17
11
4
2004
2005
2006
2007
2008
2009
2010
2011


Nº PESSOAS NÃO AUTORIZADAS MORTAS
R² = 0,93
50
40
30
20
10
0
43
33
34
32
23
14
9
10
2004
2005
2006
2007
2008
2009
2010
2011


Nº OUTRAS PESSOAS MORTAS
2
1
0
0
1
0
0
0
0
0
0
2004
2005
2006
2007
2008
2009
2010
2011

Legend	*English translation*
N° MORTOS	No of fatalities
N° PASSAGEIROS MORTOS	No of passengers killed
N° TRABALHADORES MORTOS	No of employees killed
N° UTILIZADORES DE PN MORTOS	No of LC users killed
N° PESSOAS NÃO AUTORIZADAS MORTAS	No of unauthorised persons killed
N° OUTRAS PESSOAS MORTAS	No of other fatalities

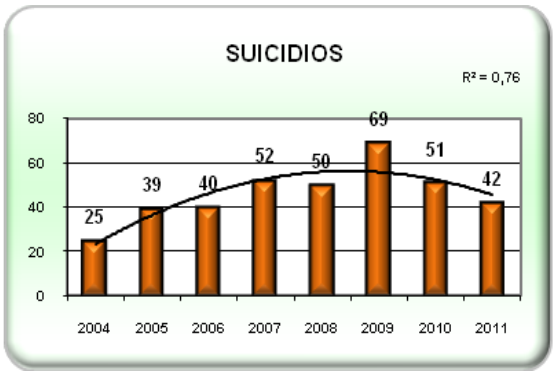
D.3.3 – Suicides

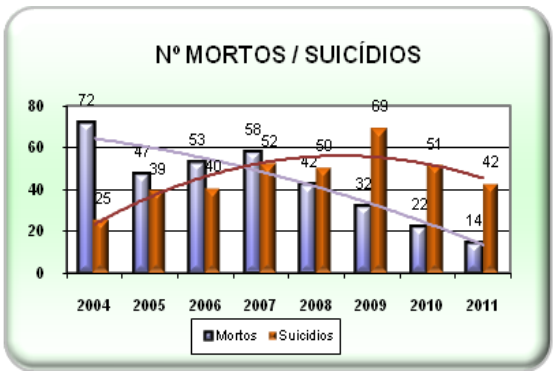
Note that suicides are not deemed to be accidents since they are voluntary and deliberate acts intended to harm those who commit them. However, despite not being considered accidents, suicides are a personal and social tragedy and are also, at various levels, a major cause of disruption in rail transport.

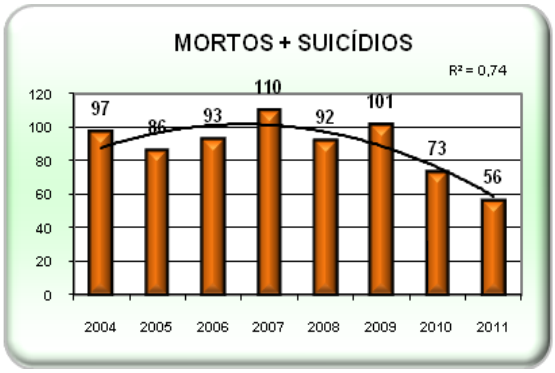
The data reveal that suicides peaked in 2009 and then decreased significantly over the past two years. This may indicate a downward trend, which will be confirmed or otherwise in the coming years. An analysis of the graphs indicates that the total number of fatalities and suicides has dropped, which clearly shows that the safety of the system has improved.

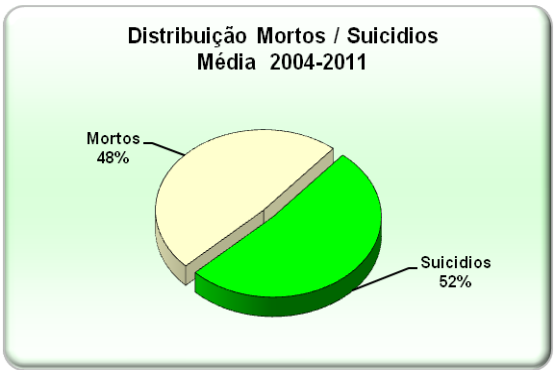
An interesting statistic for assessing the impact of suicides on the rail system is to see how far they contribute to total fatalities on railway property. The graph shows that, on average, the number of suicides already exceeds fatalities from accidents.

Another interesting observation is that while the total number of fatalities on railway property (accidental deaths and suicides) has risen and fallen over the years, 2011 saw the lowest number of fatalities on railway property, now indicating a downward trend.









SUICÍDIOS	Suicides
N° MORTOS/ SUICÍDOS	No of fatalities/Suicides
MORTOS + SUICÍDIOS	Fatalities + suicides
Distribuição Mortos / Suicídios Média 2004-2010	Breakdown of fatalities / Suicides 2004-2010 average

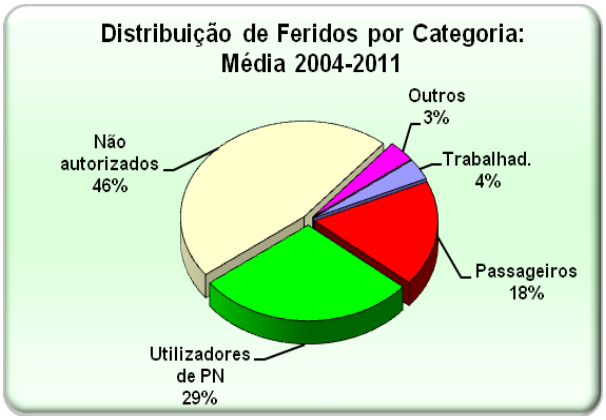
D.3.4 - Severe injuries

Category	2004	2005	2006	2007	2008	2009	2010	2011	Average
Total injuries (all categories)	**50**	**44**	**33**	**34**	**39**	**18**	**16**	**10**	**28**
Passengers	11	7	8	5	6	4	**3**	**2**	**5**
Employees	3	0	2	2	2	2	**2**	**0**	**1**
LC users	12	15	9	8	10	5	**3**	**3**	**8**
Unauthorised persons	24	22	12	18	20	7	**8**	**5**	**13**
Others	0	0	2	1	1	0	**0**	**0**	**1**

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

The distribution pattern for severe 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 2004-2010 shows a significant number of injuries to passengers (18%), a much higher percentage than for fatalities, passengers accounting for around 2% of the total.



Distribuição de Feridos por Categoria: Média 2004-2011	Breakdown of injuries by category: Average 2004-2011
Não autorizados: 46%	Unauthorised persons: 46%
Utilizadores de PN: 29%	LC users: 29%
Outros: 3%	Others 3%
Trabalhad.:4 %	Employees: 4%
Passageiros: 18%	Passengers: 18%

D.3.5 - Risk to society

Category of person	2004	2005	2006	2007	2008	2009	2010	2011	Average
Total for all accidents	**2.03**	**1.32**	**1.43**	**1.5**	**1.1**	**0.83**	**0.59**	**0.4**	**1.15**
Passengers	0.03	0.02	0.02	0.04	0.09	0.01	0.03	0.01	**0.03**
Employees	0.09	0.05	0.03	0.13	0.03	0.03	0.03	0	**0.05**
LC users	0.72	0.32	0.48	0.51	0.38	0.43	0.28	0.12	**0.4**
Unauthorised persons	1.19	0.9	0.9	0.82	0.6	0.36	0.25	0.28	**0.66**
Others	0	0.03	0.01	0	0	0	0	0	**0.01**

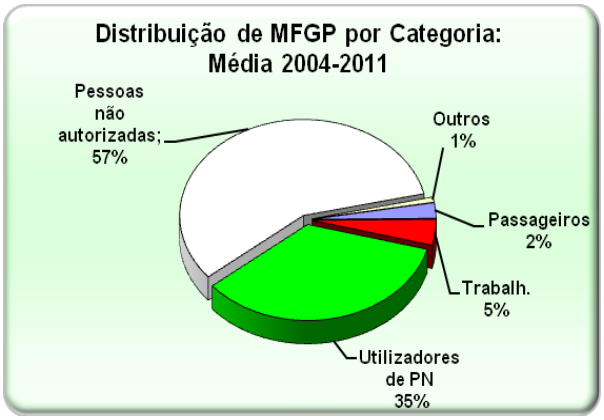
A useful method for analysing overall trends in railway accidents and the risks to which society is exposed by rail transport involves calculating a standard index that takes into account the number of fatalities and severe injuries during the year, and distances travelled by trains.

This indicator is calculated by dividing the total number of fatalities and weighted severe injuries (FWSI) by the distance in millions of train-kilometres travelled during the year under analysis. For the purposes of calculating the index, one weighted severe injury is regarded as statistically equivalent to 0.1 fatalities.

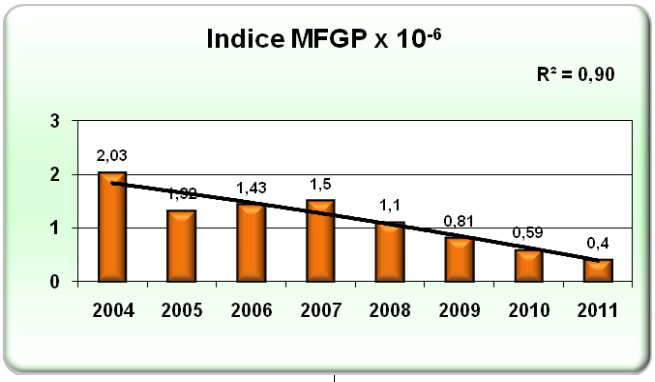
The trend indicates a clear reduction over the past eight years in the overall risk to society posed by the railway network, as shown in the first chart on the next page.

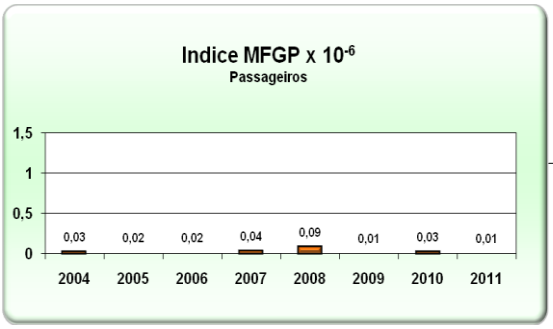
The various risk categories are shown in the respective charts, indicating a clear downward trend in the risk for the category 'Unauthorised persons on railway premises' and now also for 'LC users'.

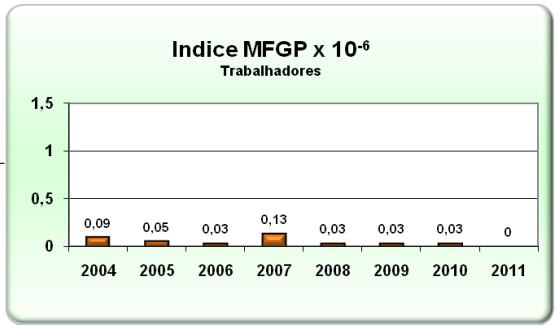
Since the charts show the individual categories on the same scale, it is clear that the proportion of the risk posed to society in terms of passengers, employees and others by comparison with the overall risk is extremely low (see chart below).

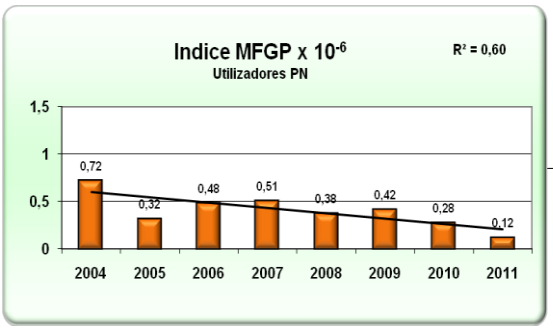


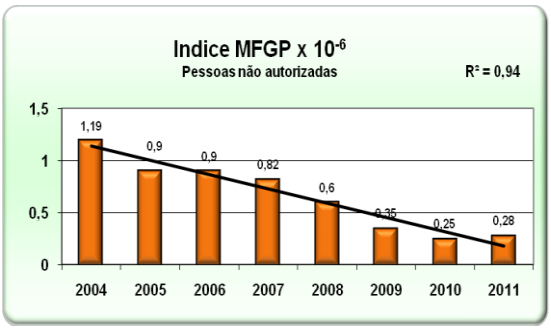
Breakdown of FWSIs by category: Average 2004-2011	
Distribuição de MFGP por Catergoria: Media 2004-2011	Breakdown of FWSIs by category: Average 2004-2011
Pessoas não autorizadas:57%	Unauthorised persons: 57%
Outros 1%	Others 1%
Passageiros 2%	Passengers 2%
Trabalh. 5%	Employees 5%
Utilizadores de PN 35%	LC users 35%

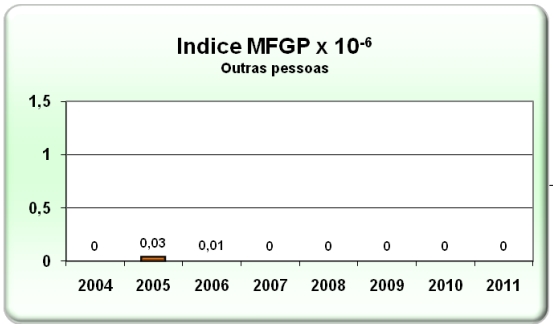

Indice MFGP x 10-6
R² = 0,90
3
2
1
0
2,03
1,43
1,5
1,1
0,81
0,59
0,4
2004
2005
2006
2007
2008
2009
2010
2011


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
0,01
2004
2005
2006
2007
2008
2009
2010
2011


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
0
2004
2005
2006
2007
2008
2009
2010
2011


Indice MFGP x 10-6
Utilizadores PN
R² = 0,60
1,5
1
0,5
0
0,72
0,32
0,48
0,51
0,38
0,42
0,28
0,12
2004
2005
2006
2007
2008
2009
2010
2011


Indice MFGP x 10-6
Pessoas não autorizadas
R² = 0,94
1,5
1
0,5
0
1,19
0,9
0,9
0,82
0,6
0,35
0,25
0,28
2004
2005
2006
2007
2008
2009
2010
2011


Indice MFGP x 10-6
Outras pessoas
1,5
1
0,5
0
0
0,03
0,01
0
0
0
0
0
2004
2005
2006
2007
2008
2009
2010
2011

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

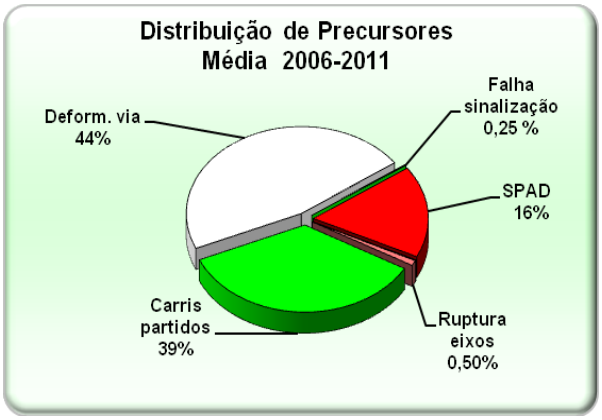
D.3.6 – Accident precursors

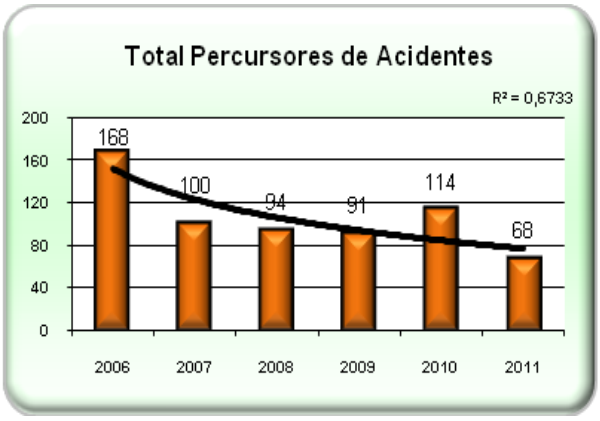
Accident precursors	2006	2007	2008	2009	2010	2011	Average
Total number of incidents and near misses	168	100	94	91	114	68	**106**
Broken rails	45	39	33	35	50	21	**37**
Track buckles	95	40	37	44	56	24	**49**
Wrong-side signalling failures	0	0	0	0	1	0	**0.2**
Signals passed at danger (SPAD)	24	20	24	12	6	22	**18**
Broken wheels on rolling stock in operation	1	0	0	0	0	0	**0.2**
Broken axles	3	1	0	0	1	1	**1**

After continually dropping since 2006, total accident precursors (incidents and near misses) saw a reversal of the trend in 2010. It began to fall again in 2011, however, resulting in the lowest value of the eight years on record.

With regard to the average distribution of accident precursors in the period 2006-2011, there are three main categories: track buckles, broken rails and SPADs.

In the case of SPADs, there was an unfavourable development in 2011 with a sharp increase over the previous year (+266%). Since this is one of the most dangerous accident precursors, this increase is a cause for concern, and the reasons for it must be investigated and remedied.





Legend	*English translation*
Distribuição de Incidentes Média 2006-2011	Average incident distribution 2006-2011
Defrom.via 44%	Track buckles 44%
Carris partidos 39%	Broken rails 39%
Falha sinalização 0,25%	Signal failures 0.25%
SPAD 16%	SPADs 16%
Ruptura eixos 0,50%	Broken axles 0.50%

Total Percursores de Acidentes	Total accident precursors

D.3.7 – Cost of accidents

Cost of accidents (million euros)	2006	2007	2008	2009	2010	2011	Average
Total cost	**52.11**	**60.25**	**47.69**	**33.59**	**26.29**	**15.75**	**39.01**
Fatalities	47.24	54.96	40.54	30.32	21.2	13.41	**34.4**
Severe injuries	3.93	4.31	5.03	2.28	2.06	1.28	**3.15**
Cost of replacing or repairing damaged rolling stock and infrastructure	n.a.	n.a.	0.75	0.6	2.243	0.69	**1.07**
Cost of delays	0.94	0.98	1.37	0.39	0.79	0.38	**0.81**

The cost of accidents was determined using the method developed by ERA for calculating common safety indicators. With this methodology the cost of accidents is evaluated from the point of view of the costs that society as a whole would have saved if the accidents causing deaths, injuries and delays in passenger and freight train traffic had been prevented (see details in Annex C).

The values were calculated from the figures defined for Portugal in tables 1, 2 and 3 of Annex C, corrected on a linear basis by the growth factor in per capita GDP between 2002 and 2011, which according to ERA data obtained from Eurostat is 1.19.

Bearing in mind that in 2011 there was a significant drop in the number of fatalities (the category with the highest proportional accident cost (85%)) by comparison with 2010, the year-on-year cost of accidents in 2011 fell substantially (-41%).

Distribuição de custos de acidentes 2011	Breakdown of accident costs in 2011
Mortos 85%	Fatalities 85%
Feridos; Graves 8%	Severe injuries 8%
Reparação MC+IF4 %	Repairs MC + IF 4%
Atrasos 3%	Delays 3%

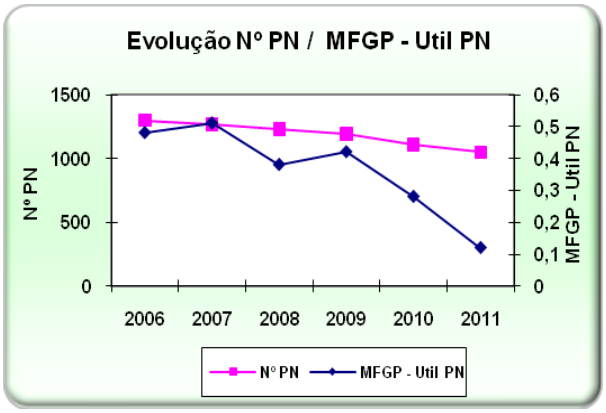
D.3.8 - Indicators for technical safety of the infrastructure and its implementation

Technical characteristics of tracks	2006	2007	2008	2009	2010	2011
Percentage of lines with operational automatic train protection (ATP)	50.3%	50.8%	51.3%	51.3%	52.6%	58.6%
Percentage of train-kilometres travelled using operational ATP systems	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Total number of level crossings	1297	1266	1229	1191	1107	1049
Number of LCs per kilometre of track	0.37	0.36	0.35	0.34	0.31	0.3
Number of LCs per kilometre of line	0.46	0.45	0.43	0.42	0.39	0.375
Percentage of level crossings with automatic or manual protection	39.3%	38.2%	37.3%	39.7%	41.9%	43.6%

The indicators on the technical safety of infrastructure show that, in 2011, there was a further improvement in technical safety conditions in relation to previous years, which of course directly affects the consistent decrease in accidents observed in recent years.

The category that has shown the greatest improvement as a result of significant investment is level crossings. The chart opposite shows that the reduction in the number of level crossings is directly related to their lower adverse social impact in terms of the number of fatalities and serious injuries among level-crossing users.

Note also that this year the section of line between Evora and Estremoz, with a length of 49.07 km, was declassified from the national railway network, as it had already been inoperative since 2009.



Evolução N° PN / MFGP – Util PN	Trend of No of LCs / FWSIs - LC users
N° PN	No of LCs
MFGP. Util PN	FWSIs. LC users

E – RELEVANT AMENDMENTS TO LEGISLATION AND REGULATIONS

E.1 – National legislation

In 2011 the following important pieces of legislation were published to transpose EU legislation into national law:

- Decree Law No 27/2011 laying down technical conditions to improve the safety of the rail system and safe and uninterrupted movement of trains, transposing the interoperability Directives;

- Law No 16/2011 approving the certification system for locomotive and train drivers on the railway system, transposing Directive 2007/59/EC (train drivers Directive).

Other relevant national legislation published in 2011:

- Joint Order of the Ministry of Finance and Public Administration and the Ministry of Public Works, Transport and Communications enacting the deactivation of the section of line between Evora (kp 126.800) and Estremoz (kp 175.870);

- Resolution of the Council of Ministers No 45/2011 of 10 November 2011 approving the Strategic Transport Plan for 2011-2015, which will have important consequences for the future of the rail system.

E.2 – Technical safety regulations

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

- **29th amendment to RGS III - Movement of trains (SISE)**
  Authorised the entry into service of the Simplified Computerised Operation System on the Vouga line.

- **45th amendment to RGS II - Signals**
  Clarified the procedures relating to signalling of speeds and passing signals at danger.

- **EIT 51 - Locomotive loading tables**
  Established procedures for formation and assignment of loads to trains equipped with UIC 1.5 MN couplings.

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 April 2006, came into force on 14 June 2007. Thus from that date, a new system came into force for safety certification of railway undertakings and the obligation was introduced for the infrastructure manager to have a safety authorisation in order to carry out its 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, is 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 introduced by the original Decree Law No 270/2003, which transposed Directive 2001/14/EC of 26 February 2001.

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

In 2011, the safety certification process of all the railway undertakings was completed with the issue of Part A and Part B safety certificates to the undertakings CP-Comboios de Portugal and FERTAGUS, and the issue of the Part A and Part B safety authorisation to REFER.

Detailed numerical data relating to the development of safety certification and authorisation in 2011 are given in Annex E.

F.3 - Reference documents for procedures

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 of which IMTT is a member. This work ultimately resulted in the publication of Commission Regulations No 1158/2010/EU and No 1169/2010/EU on a common safety method for assessing conformity with the requirements for obtaining railway safety certificates and safety authorisations respectively.

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 on a common safety method for assessing conformity with the requirements for obtaining 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 within the statutory deadline 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

An update was carried out in May 2012 of the regulatory documents setting out the framework necessary to harmonise the way in which all undertakings draft their annual safety reports. The following documents were republished
: IET 78 – Report template, IET 79 – Definitions for the analysis of common safety indicators, and ICET 179 - Table of common safety indicators. These documents are in line with the recommendations and guidelines devised by the European Railway Agency and Decree-Law 62/2010 establishing the common safety indicators and their definitions and calculation methods, thereby completing the necessary legal framework for the preparation of common annual safety reports at Community level.

In compliance with their statutory obligations, the undertakings produced and submitted their safety reports for 2011 to IMTT.

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 2011, the supervision of the undertakings' activities entailed daily monitoring of occurrences of rail operations and carrying out inspections.

The principal inspections related to:

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

- Inspection of conditions for opening the modernised Evora-Bombel section 27 to traffic;
- Inspection of conditions for opening the Vendas Novas–Casa Branca–Évora section of line to traffic;
- Inspection of operating conditions of GSM-P equipment on the Evora-Bombel section of line.

- In respect of railway operation:

- Inspection of loading conditions of Takargo timber wagons in Louriçal;
- Inspection of Fertagus railway operations on the Setúbal-Rome-Areeiro route.

- Inspection of transport conditions of Pet-Coke by CP Carga at Praias do Sado;
- Inspection of operating conditions of a level crossing at Coruche;
- Inspection of the SISE system on the Vouga line.

Each of these inspection 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 the working hours of staff at the Railway Infrastructure and Equipment Department.

G.4 - Corrective measures

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

- Improvement of the terminals and operating procedures for GSM-P equipment;

- Improvement of the procedures for operating the SISE system on the Vouga line;

- Reduced speed of trains carrying Pet-Coke when passing through Vale da Rosa;

- Better monitoring of loading of Takargo timber freight wagons.

H – Application of the common safety method on risk evaluation and assessment

Two significant processes for analysing technical changes were introduced in 2011. The following processes were subject to the application of Commission Regulation (EC) No 352/2009 of 24 April 2009 on the adoption of a common safety method on risk evaluation and assessment:

- Modernisation of 45 carriages of CP-Comboios, Portugal:
  - 31 second-class saloon carriages, series 20-74 001/031;
  - 31 first-class saloon carriages, series 10-74 001/003;
  - 11 mixed bar/saloon carriages, series 85-74 101/111.
- Putting into service by REFER of GSM-P communication equipment on the Vendas Novas–Casa Branca–Évora section of line.

These two processes were only completed in 2012, so their analysis will be reported in the annual safety report for that year.

I – Conclusions

In terms of railway safety, notable occurrences in 2011 include the following:

I.1 - Positive Aspects

There was a sharp decline in relation to 2010 in the number of:

- accidents (-36%)
- fatalities (-36%)
- severe injuries (-38%)
- total risk of fatalities and weighted severe injuries (FWSIs: -32%)
- suicides (-18%)

In fact, the clear downward trend in these indicators over the past eight years continued, excepting for suicides which have decreased over the past two years only.

Note also that there were no serious or very serious accidents with significant social or media impact, normally associated with train collisions or derailments.

We would also point out that no passengers or employees died as a result of railway accidents.

There was also a significant drop in the total number of accident precursors (-60%) compared with 2010.

With the completion of the processes for obtaining safety certification and safety authorisation, by CP-Comboios de Portugal and REFER respectively, 2011 was the first year in which all the railway undertakings had their safety management systems approved.

Another positive aspect is the improvement, however slight, of the indicators relating to the technical safety of the infrastructure.

A 5% reduction in relation to 2010 was also noted in the total number of level crossings, as the multiannual programme continued for gradually eliminating them and improving the safety conditions of those remaining.

Regarding the modernisation of the line sections: Vendas Novas–Casa Branca–Évora and Vale de Prazeres–Covilhã, safety conditions were improved by the introduction of modern traffic command and control systems.

Finally, we note the entry into force of Decree-Law No 27/2011, laying down technical conditions to improve the safety of the rail system and safe and uninterrupted movement of trains, transposing the interoperability Directives, and of Law No 16/2011 approving the certification system for locomotive and train drivers on the railway system, transposing Directive 2007/59/EC (train drivers Directive).

I.2 - Negative aspects

There was an increase in fatalities among unauthorised due to accidents (+11%).

There was also a sharp increase compared with 2010 in signals passed at danger (SPAD) (+267%).

For safety reasons, traffic continued to be suspended along most of the Tua line and on the Corgo and Tâmega lines, the Figueira da Foz branch line and the Beira Baixa line between Covilhã and Guarda.

Finally, we have to report damage to the infrastructure with an impact on safety and quality of service due to thefts of electrical equipment and cables.

I.3 - Priority activities

IMTT will take the following priority railway safety measures in 2012/2013:

- continue to support undertakings in developing their safety management systems by disseminating national and community legislation and the initiatives carried out by the ERA;
- devise rules governing safety certification/authorisation processes, authorisation to bring subsystems into service and supervision of the activities of railway undertakings;
- step up supervision activities by conducting audits on the safety management systems used by the railway undertakings;
- continue the activities involved in certifying safety management systems and authorising the use of new subsystems in such a way as to avoid restricting the normal activities of the railway undertakings.
- continue analysing and approving the technical safety regulations needed to ensure the safe operation of present-day railway networks.

J – BIBLIOGRAPHY

- 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 recommendation - WG on Common Safety Indicators/Safety Performance
- Annual Safety Report 2011 – REFER
- Annual Safety Report 2011 – CP – Comboios de Portugal
- Annual Safety Report 2011 – CP Carga
- Annual Safety Report 2011 – FERTAGUS
- Annual Safety Report 2011 – TAKARGO
- Template - Structure for the content of the NSA Annual Report: ERA - Network of National Safety Authorities

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L - ANNEXES

ANNEX A – STRUCTURE OF THE RAILWAY SYSTEM

ANNEX B – ORGANISATION OF 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 - 2011

Annex G – LIST OF ACCIDENT PRECURSORS – 2011

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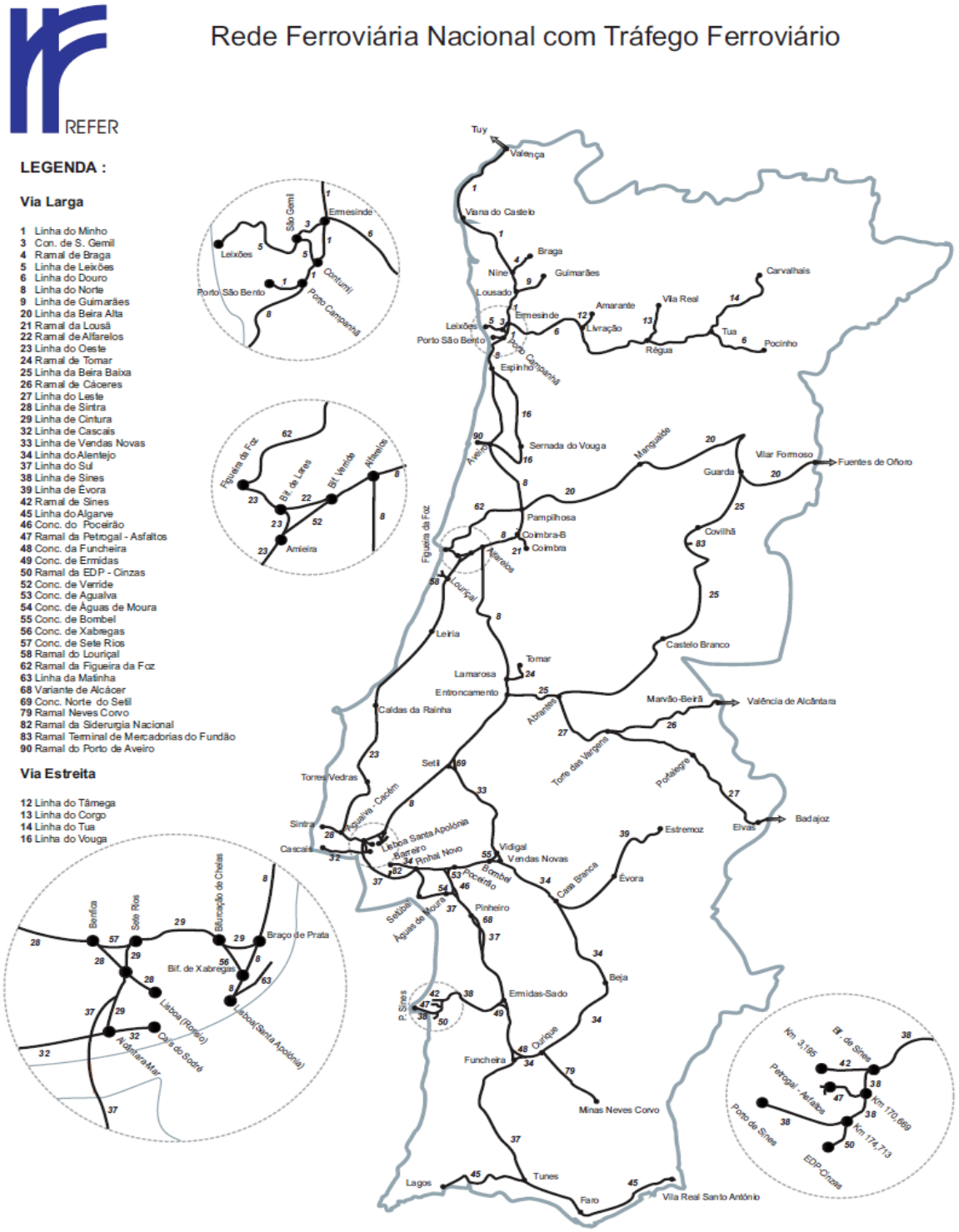
ANNEX A

STRUCTURE OF THE RAILWAY SYSTEM

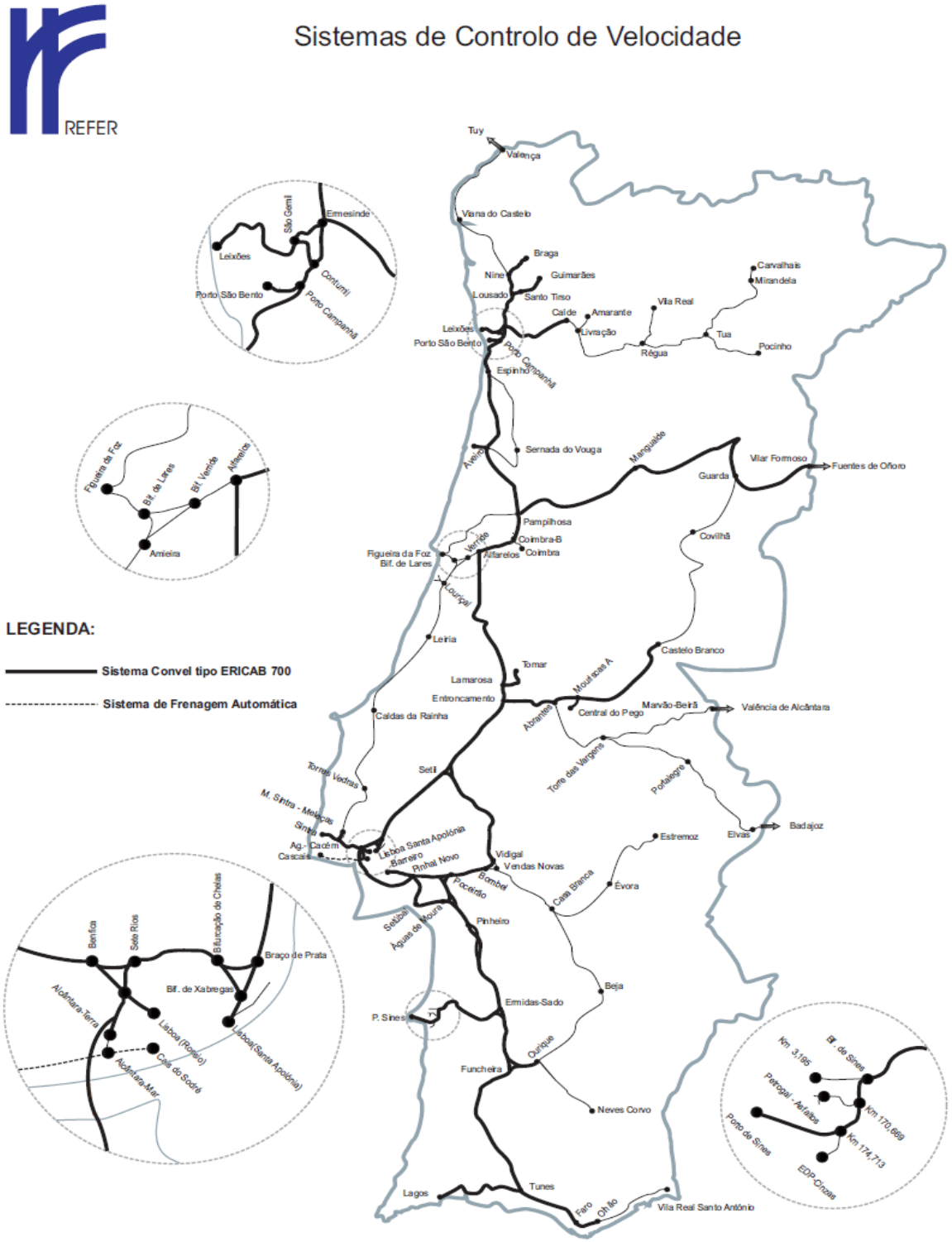
2011

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

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 Lisbon, Portugal
Website	www.refer.pt
Safety Authorisation (DL No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	PT 21 2012 0001 and PT 22 2012 0001
Date of commencement of activity	29 April 1997
Length of network open to traffic	Total: 2 793.920 km Broad gauge track (1 668 mm): 2 602.121 km Narrow gauge track (1000 mm): 191.799 km
Length of lines by number of tracks	Multiple track: 609.935 km Single track: 2 183.985 km
Length of electrified network	Total: 1 629.154 km 25 000 V_{AC}: 1 603.704 km 1 500 V_{DC}: 25.450 km % of network open to traffic: 58.31%
Length of lines equipped with CONVEL/ATP:	1 636.516 km % of network open to traffic: 58.57%
Length of lines equipped with ground-train radio:	1 505.704 km % of network open to traffic: 53.89 %
Number of level crossings (including private and pedestrian)	1 049 LCs Density: 0.38 LC / km of line 0.30 LC / km of track
Level crossings with automatic or manual protection	457 LCs % of total LCs: 43.6 %
Number of trains on network	Total: 648 347 Passengers: 511 509 Goods: 54 719 Empty stock movements: 82 119
Train-kilometres (tk) travelled on the system	Total: 37.67 x 10^6 Passengers: 31.00 x 10^6 Goods: 6.67 x 10^6
% of tk with CONVEL/ATP in operation	90%

A.2.2 - Railway undertakings

A.2.2.1 – CP – Comboios de Portugal, E.P.E.

Description	Information
Name	CP – Comboios de Portugal, EPE
Address	Calçada do Duque, No 20 1249-109 Lisbon Portugal
Website	www.cp.pt
Licence to begin activity (DL No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	PT 01 2010 0001 – International passengers PT 01 2010 0002 – Domestic passengers PT 01 2010 0003 – Regional passengers PT 01 2010 0004 – Suburban passengers
Safety certificate (DL No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	PT 11 2011 0002 and PT 12 2011 0004
Date of commencement of activity	9 May 1951
Type of traffic	Passengers
Number of locomotives	Total: 93 (Diesel: 41, Electric: 52)
Number of railcars	Total: 234 (Diesel: 47; Electric: 187)
Number of carriages	102
Number of drivers	777
Number of assistant drivers	6
Number of commercial operators with safety-related responsibilities	648
Number of trains used	Passengers: 461 513 (includes empty stock movements)
Train km travelled (tk)	Passengers: 29.00 x 10^6 (includes empty stock movements)
% of tk travelled with CONVEL / ATP in operation	99.9 %
Number of passenger km (pk)	3 749 x 10^6
Number of hours worked on company business	5 045 447

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 No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	PT 01 2011 0001
Safety certificate (DL n.º 270 / 2003 of 28 October 2003)	PT 11 2011 0003 and PT 2011 0005
Date of commencement of activity	29 July 1999
Type of traffic	Passengers
Number of railcars	Electric: 18
Number of drivers	46
Number of assistant drivers	Not applicable
Number of commercial operators with safety-related responsibilities	84
Number of trains used	Passengers: 55 635 (includes empty stock movements)
Train km travelled (tk)	Passengers: 1.777 x 10^6
Number of passenger km (pk)	393.648 x 10^6
% of tk with CONVEL/ATP in operation	100 %
Number of hours worked on company business	328 620 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 No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	Licence No 02 of 1 March 2007
Safety certificate (DL No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	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	25
Number of assistant drivers	9
Number of trains used	Goods: 2 083 (includes empty stock movements)
Train km travelled (tk)	Goods: 0.51 x 10^6
Number of tonne-km	224.88 x 10^6
% of tk with CONVEL/ATP in operation	79%
Number of hours worked on company business	130 715 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, No 20 1249-110 Lisbon Portugal
Website	www.cpcarga.pt
Licence to begin activity (DL No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	PT 01 2009 01 – Domestic goods PT 01 2009 02 – International goods
Safety certificate (DL No 270/2003, as amended by DL No 231/2007 of 14 June 2007)	Part A – PT 11 2009 0002 (1st issue) Part B – PT 12 2009 0012 (1st issue)
Date of commencement of activity	1 August 2009
Type of traffic	Goods
Number of locomotives	Total: 60 (Diesel: 30, Electric: 30)
Number of wagons	3 168 (2 928 in commercial service)
Number of drivers	249 (average)
Number of assistant drivers	155 (average)
Number of trains used	Goods: 59 090 (includes empty stock movements)
Train km travelled (tk)	Goods: 6.21×10^6
% of tk travelled with CONVEL / ATP in operation	99.05%
Number of tonne-km	$2\,063 \times 10^6$
Number of hours worked on company business	1 522 833

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ANNEX B

ORGANISATION OF IMTT

2011

B.1 – Organisational structure of IMTT

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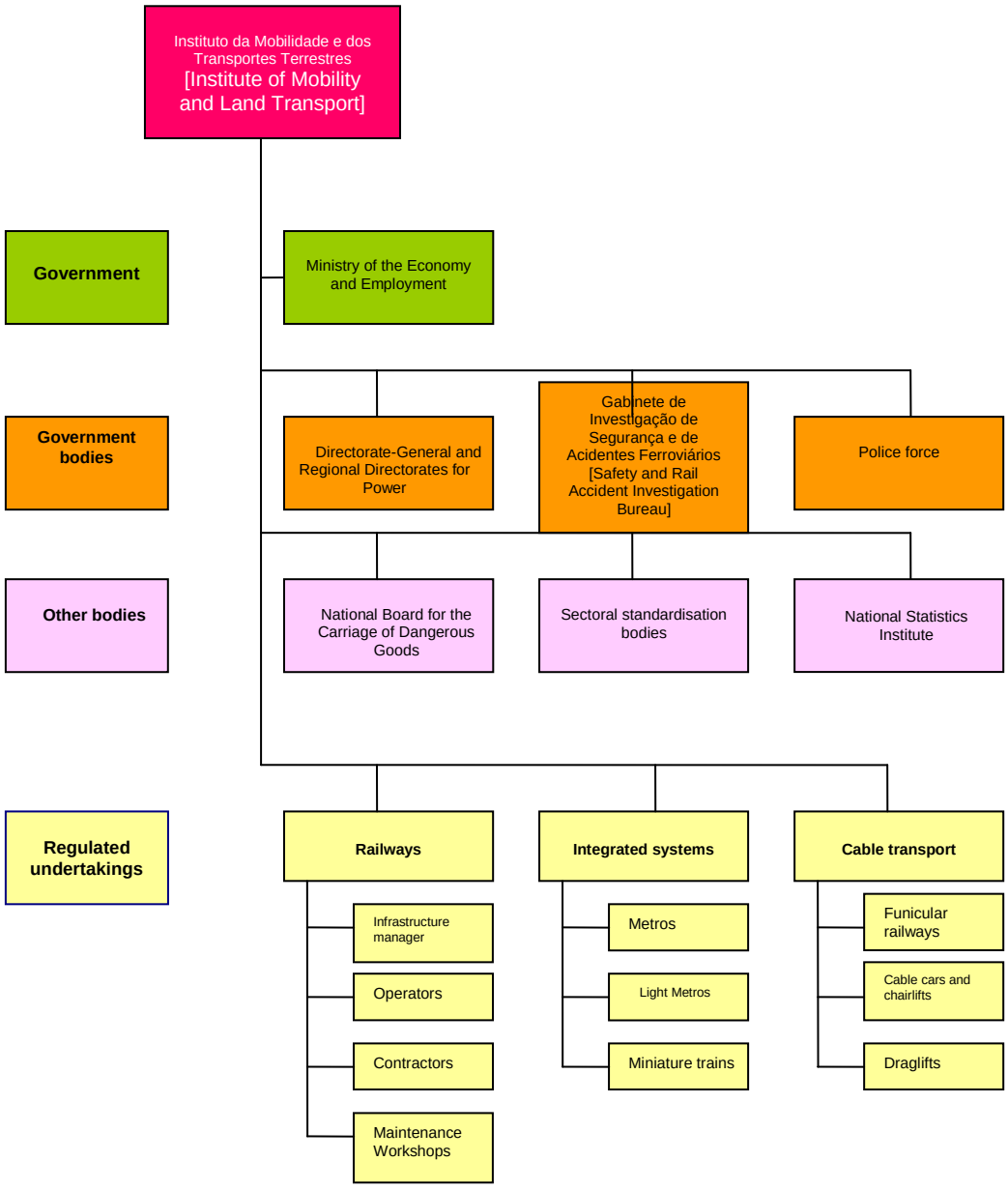
B.2 - Relationships of IMTT with other rail-safety bodies



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ANNEX C

COMMON SAFETY INDICATORS AND DEFINITIONS USED

2011

C.1 – Common Safety Indicators 2011

Number of accidents and breakdown by type		Per million tk
Total number of accidents	**27**	**0.73**
Train collisions, including collisions with obstacles within the clearance gauge	1	0.03
Train derailments	2	0.05
Accidents at level crossings, including accidents involving pedestrians	7	0.19
Accidents to persons caused by rolling stock in motion, excluding suicides	17	0.46
Fires in rolling stock	0	0
Other accidents	0	0

Total number of suspected suicides		Per million tk
Suicides	42	1.13

Number of fatalities and breakdown by type of victim		Per million tk	Per million pk
Total number of fatalities	**14**	**0.38**	
Passengers	0	0	0
Employees (including the staff of contractors)	0	0	
LC users	4	0.11	
Unauthorised persons on railway property	10	0.27	
Others	0	0	

Number of fatalities and break.down by type of accident		Per million tk
Total number of fatalities	**14**	**0.38**
Train collisions	0	0
Train derailments	0	0
Accidents at level crossings, including accidents involving pedestrians	4	0.11
Accidents to persons caused by rolling stock in motion, excluding suicides	10	0.27
Fires in rolling stock	0	0
Other accidents	0	0

Number of severe injuries and breakdown by type of victim		Per million tk	Per million pk
Total number of severe injuries	**10**	**0.27**	
Passengers	2	0.05	0.0005
Employees (including the staff of contractors)	0	0	
LC users	3	0.08	
Unauthorised persons on railway property	5	0.13	
Others	0	0	

Number of severe injuries and breakdown by type of accident		Per million tk
Total number of severe injuries	**10**	**0.27**
Train collisions, including collisions with obstacles within the clearance gauge	0	0
Train derailments	0	0
Accidents at level crossings, including accidents involving pedestrians	3	0.08
Accidents to persons caused by rolling stock in motion, excluding suicides	7	0.19
Fires in rolling stock	0	0
Other accidents	0	0

Number of incidents and near-misses and breakdown by type		Per million tk
Total number of incidents and near misses	**68**	**1.83**
Broken rails	21	0.56
Track buckles	24	0.64
Wrong-side signalling failures	0	0
Signals passed at danger	22	0.59
Broken wheels on rolling stock in operation	0	0
Faulty axles in rolling stock in operation	1	0.03

Cost of accidents (million Euros)		Per million tk
Total cost	**15.76**	**0.42**
Cost of fatalities	13.41	0.36
Cost of injuries	1.28	0.03
Cost of replacing or repairing damaged rolling stock and infrastructure	0.69	0.02
Cost of delays, disruptions and re-routing of traffic, including additional personnel expenditure and loss of profits	0.38	0.01

Indicators relating to technical safety of infrastructure	
% of lines with Automatic Train Protection (ATP) systems in operation	52.6%
% of tk travelled using operational ATP systems	90.0%
No of level crossings (LCs)	
Active LCs - Warning and/or automatic protection of users	
Automatic warning of users	35
Automated user protection	0
Automatic warning and automatic user protection (simultaneous)	347
Automatic warning and automatic protection of users and automatic train protection	0
Active LCs – Manual control with warning and/or protection of users	
Manual warning to users	2
Manual user protection	60
Manual warning and protection of users (simultaneous)	13
Total active level crossings	457
Total passive level crossings	592
Total LCs (Active + Passive)	1 049
Number of LCs per kilometre of track	0.30
Number of LCs per kilometre of line	0.38
% of LCs with automatic or manual protection	43.6%

Reference data	
N of train km (million tk)	37.21
N of passenger km (million pk)	4 143.4
N of km of track (km of multiple lines multiplied by no of tracks)	3 482.674
N of km of line in operation	2 793.92

Note: figures of National Statistics Institute.

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 2010, transposing Directive 2009/149/EC of 27 November 2009 into national law.

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ANNEX D

RELEVANT AMENDMENTS TO LEGISLATION AND REGULATIONS

2011

National legislation	Legal reference	Date of entry into force	Reason for introduction	Description
Generic national safety legislation	Decree-Law 27/2011	18.02.2011	Transposition of Directive 2008/57 (Interoperability Directive)	Lays down technical conditions to improve the safety of the rail system and safe and uninterrupted movement of trains.
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	-	-	-	-
Rules laying down requirements for safety management systems and safety authorisation of the Infrastructure Manager	-	-	-	-
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	29th amendment to RGS III - Movement of trains (SISE) 44th amendment to RGS II - Signals	06.03.2011 09.04.2011	To improve operating and safety conditions To improve operating and safety conditions	Entry into service of the Simplified Computerised Operation System (SISE) on the Vouga line Establishing 'repeater signal' for main signal Clarification of procedures for signalling of speeds

	45th amendment to RGS II - Signals	31.07.2011	To improve operating and safety conditions	and passing signals at danger.
	EIT 51 - Locomotive loading tables	2.08.2011	To improve operating conditions	Establishing procedures for formation and assignment of loads to trains equipped with UIC 1.5 MN couplings.
	60th Amendment to the EIT 57 - Using the ground-train radio system	08.07.2011	To improving safety conditions at LCs	Installation of ground-train radio alarm system at the level crossing located at km 78.814 on the North line
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	Law No 16/2011	11.09.2011	Transposition of Directive 2007/59/EC (train drivers Directive)	Approves certification system for locomotive and train drivers
Rules on the investigation of accidents and incidents, including recommendations	-	-	-	-
Rules laying down requirements for national safety indicators, including how to collect and analyse such indicators	-	-	-	-
Rules laying down requirements for authorising the entry into service of infrastructure (lines, bridges, tunnels, power, ATC, radio, signalling, signal boxes, level crossings, platforms, etc.)	-	-	-	-

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ANNEX E

DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION

2011

E.2 - Safety certificates as per Directive 2004/49/EC

Table E.1.1		New	Amended/revised	Renewed
No of Safety Certificates – **Part A** issued in 2011 to:	Undertakings licensed in Portugal	**2**	-	**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	**2**	**2**	**1**
	Undertakings licensed in another Member State	-	-	-

Table E.1.3			Accepted*	Rejected*	Pending*
Number of applications for safety certificates - **Part A** submitted in 2011 by:	Undertakings licensed in Portugal	New certificates	**2**	-	-
		Certificates amended/revised	-	-	-
		Renewal of certificates	**1**	-	-
	Undertakings licensed in another Member State	New certificates	-	-	-
		Certificates amended/revised	-	-	-
		Renewal of certificates	-	-	-

Table E.1.4			Accepted*	Rejected*	Pending*
Number of applications for safety certificates - **Part B** submitted in 2011 by:	Undertakings licensed in Portugal	New certificates	**2**	-	-
		Certificates amended/revised	**2**	-	-
		Certificate renewals	**1**	-	-
	Undertakings licensed in another Member State	New certificates	-	-	-
		Certificates amended/revised	-	-	-
		Renewal of certificates	-	-	-

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 - List of countries in which undertakings applying for a safety certificate - Part B obtained a safety certificate - Part A:

- Portugal

E.3 - Safety authorisation as per Directive 2004/49/EC

Table E.3.1	New	Amended/revised	Renewed
No of safety authorisations issued in 2011 to infrastructure management undertakings	**1**	-	-
	-	-	-

Table E.3.2		Accepted*	Rejected*	Pending*
No of safety authorisation applications submitted in 2011 by infrastructure management undertakings	New authorisations	-	-	-
	Amendment/revision of authorisations	-	-	-
	Renewed authorisations	-	-	-

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 2011) for issuing a safety certificate – Part A, after receipt of all necessary documentation	Undertakings licensed in Portugal	**1 month**	-	**1 month**
	Undertakings licensed in another Member State	-	-	-

E.5 – Safety certificates – Part B: Procedures

		New	Amended/revised	Renewed
Average time (in 2011) for issuing a safety certificate – Part B, after receipt of all necessary documentation	Undertakings licensed in Portugal	**1 month**	**1 week**	**1 month**
	Undertakings licensed in another Member State	-	-	-

E.6 – Safety authorisation: Procedures

	New	Amended/revised	Renewed
Average time (in 2011) for issuing a safety authorisation, after receipt of all necessary documentation	**1 month**	-	-

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Annex F

Significant accidents

2011

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Significant accidents - 2011

Significant accidents					
RDC No **99943**	**Date/time** **05-01/16:55**	**Train No** **871 (CP)**	**Line** **Douro**	**Classification:** **Collision**	**KP (km)** **169.000**
Description 01	The train struck stones and earth that derailed one bogie in the first vehicle of UTD-592. The emergency plan was activated for a category B incident; the Inspector took responsibility for local emergency management. This accident caused material damage only; there were no injuries. The emergency vehicle was dispatched to the scene on train 92251 from Contumil at 18:30 with 40 minutes' delay and arrived at the scene at 22:25. According to the local emergency coordinator and the track supervisor who went to the scene, only the first bogie was derailed. This occurrence led to the cancellation of the work planned in Service Order 36. 2011-01-06 06:01 Re-railing begun at 22:25, completed at 03:30; the vehicle involved departed at 04:30 and reached Pocinho at 04:50. The track was closed between Tua and Pocinho stations. An opinion is awaited from Engineering on the stabilisation of the bank and the replacement of the platform. 2011-01-06 21:15 From 20:30 traffic was suspended between Tua and Pocinho and the track closed on that section by OCC telegram No 8. 2011-01-07 20:01 ICS No 02/2011 came into force from 16:00 today, authorising movements of trains on the Douro line up to the canton of Freixo de Numão halt. The track stayed closed between Freixo de Numão and Pocinho under paragraph 12 of the OCC telegram from 16:00 until further notice.				
RDC No **101337**	**Date/time** **28-01/23:59**	**Train No** **529 (CP)**	**Line** **North**	**Classification:** **Accident with rolling stock in motion**	**KP (km)** **223.000**
Description 02	The OCC was notified by the driver of the train that it had struck a person at the above KP. The ticket collector inspected the site and reported that the accident involved a male who was wounded, lying in a ditch off the track. The ticket collector called the emergency services (INEM). The Coimbra National Republican Guard (GNR) took charge of the case. The injured person received first aid on site from the INEM team. During the occurrence traffic was suspended on track A between Coimbra B and Souselas. By 22:55 the injured person was taken to hospital in Coimbra, and normal traffic resumed between those stations. A local emergency coordinator was designated. After the occurrence the type B level crossing at KP 219.942 was faulty. The level crossing returned to normal operation at 23:59. The person was apparently blown by the displacement of air into a ditch at the scene.				
RDC No **101496**	**Date/time** **31-01/18:48**	**Train No** **17242 (CP)**	**Line** **South**	**Classification:** **Accident with rolling stock in motion**	**KP (km)** **28.868**
Description 03	An elderly passenger boarding train No 17242C fell onto the track under the train and had to have his feet amputated. He was assisted on site by INEM and taken to hospital. The Head of UOS attended the scene as local emergency coordinator (GLE) and the Setúbal Public Security Police (PSP) took charge of the case. Train 17242 resumed its journey at 19:33 and the fire service finished cleaning the track at 19:45.				
RDC No **102257**	**Date/time** **13-02/11:13**	**Train No** **18418 (CP)**	**Line** **Cintura**	**Classification:** **Accident with rolling stock in motion**	**KP (km)** **9.684**
Description 04	The train struck a man on the pedestrian crossing at the station, throwing him off the track. The INEM emergency services were called and took him to hospital. The local traffic inspector was designated local emergency coordinator (GLE).				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
102371	15-02/13:57	62341 (CP-Carga)	Beira Alta	Derailment	126.450
Description 05	According to the statement by the train's Support Operator, at the above KP the first bogie of the first carriage of the train derailed after crossing the points of the SIAF branch line. Emergency call No 19670 at 14:00. Traffic was suspended from that time between Mangualde and Nelas. A breakdown train was arranged from Pampilhosa under movement 95227 at 14:50. The Inspector was designated local emergency coordinator and went to the scene. The breakdown train waited at Nelas station for wagons that were not derailed to be removed by the locomotive of movement 95221. The rolling stock continued under movement 98206 to Pampilhosa, arriving in Nelas at 17:07. Trains 512 and 513 were partially cancelled between Mangualde and Santa Comba Dão, with transfers by road between these stations. Trains 5410 and 5413 partially cancelled between Mangualde and Nelas, with transfers by road. Breakdown train arrived at the scene at 17:25 with a crew of eight (engineer, foreman and six labourers). Rerailing started at 17:35. At about 19:10 the wagon was re-railed, and then needed to be hauled on supports to Mangualde station where it arrived at 21:38. The breakdown train reached Mangualde at 21:44 and clearance was given for rail traffic, with a speed limit of 30 km/h between KPs 125.900 and 126.450, with local signalling and CONVEL. Track circuit 1257 showed as occupied but was restored to normal after train 514 passed. That derailed wagon remained in Mangualde station awaiting inspection by rolling-stock maintenance. The breakdown train left on train 62430.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
102782	21-02/15:03	6408 (CP)	West	Accident at LC	38.705
Description 06	Train 6408 struck a man at the pedestrian crossing at the above KP. He was injured, was treated by the emergency services (INEM), but died at the scene. The Movement Inspector was designated local emergency coordinator (GLE). INEM, the Malveira National Republican Guard (GNR) and the fire service attended at the scene. Train movements were suspended from 15:03 to 15:49. Thereafter, train traffic was switched to 'proceed on sight' at the location. At 16:15, normal train traffic was reinstated without any restrictions.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
102736	21-02/00:45	17101 (CP)	Alentejo	Accident with rolling stock in motion	11.000
Description 07	The train driver reported striking a foreign body. After stopping and an inspection by the ORV, a man's body was found, near the left of the track in the direction of travel. The fire service was informed and the Moita National Republican Guard (GNR) took control of the incident, classed as a Category C emergency and the Supervisor was designated local emergency coordinator. The train resumed its journey at 01:50, after being authorised by the authority. The body was removed at around 03:20 after the arrival of the Health Officer. It was not carrying any identification. The body was at KP 11.250. The male individual was about 62 years old. It is assumed that he was walking along the railway track without paying attention.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
104105	16-03/04:10	62531 CP Carga	North	Accident at LC	301.244
Description 08	Stopped after striking a motor vehicle, which appeared on the left side in the train's direction of travel on the level crossing at the above KP, with its acoustic and light signals working normally, blocking the crossing. Reported to the Aveiro CDOS and the Area Inspector was designated local emergency coordinator for this category 'C' emergency. The accident resulted in one severe and two minor injuries, damage to the locomotive, motor vehicle and infrastructure. According to the driver's statement, the barriers were open and the level crossing guard had not noticed the vehicle's presence. The level crossing was manned by an operator from Ovar. The vehicle was immobilised on the trackside to clear the crossing. Train 62531 resumed its journey at 05:00, and following traffic was restricted to 'proceed on sight'. The speed restriction at the scene was lifted at 06:00.				

RDC No 105628	Date/time 12-04/17:20	Train No 135 (CP)	Line North	Classification: Accident with rolling stock in motion	KP (km) 149.293
Description 09	The train was stopped at KP 159.600 after the driver saw a man walking on the up-line track and believed he had been struck. The ORV visited the site and found the individual with injuries to his leg and left buttock. The emergency services were called. They attended the scene and took the victim to hospital in Pombal. The Pombal National Republican Guard (GNR) were called and they took charge of the case. Train 135 resumed its journey at 18:45.				
RDC No 105843	Date/time 15-04/16:25	Train No 15736 (CP)	Line North	Classification: Accident at LC	KP (km) 323.850
Description 10	The train was stopped after a fatal collision with an individual at the level crossing who was knocked onto the up-line track. According to the driver the person was moving from the down-line track to the up-line track. The body was removed at 16:55 and traffic resumed. A local emergency coordinator (GLE) was designated.				
RDC No 106157	Date/time 20-04/11:30	Train No 5501 (CP)	Line East	Classification: Accident at LC	KP (km) 239.521
Description 11	The CP RG CAT reported that the train struck a man in a motor vehicle entering the type D level crossing at the above KP. According to the statement of the ORV, it appeared on the left in the train's direction of travel. The accident killed the driver instantly and caused damage to the traction unit. Traffic suspended between Portalegre and Elvas at 12:30. Emergency plan C was activated and Area Inspector designated as local emergency coordinator. The emergency services and the Santa Eulalia National Republican Guard attended the scene. Emergency call No 8250 sent at 12:30 from Elvas to locomotive 1553 assigned to stock movement 98208, which arrived at the scene at 13:15. It left the scene with train 5501 at 13:40. Normal traffic resumed at 14:20.				
RDC No 106371	Date/time 24-4/18:03	Train No 15639 (CP)	Line North	Classification: Accident at LC	KP (km) 323.850
Description 12	Train stopped after striking a glancing blow at a child aged about 10, apparently by accident, who was thrown onto the trackside. The level crossing was working normally. The child, accompanied by an adult, attempted to cross from the right side in the direction of travel of the train. CDOS was notified. Traffic was switched to 'proceed on sight' at the location. The Traffic Controller was designated local emergency coordinator for this type C emergency. The child was taken to the local hospital. Normal traffic resumed at 18.45. Hospitalisation lasted more than 24 hours.				
RDC No 106667	Date/time 29-04/08:25	Train No 19413 (CP)	Line Cascais	Classification: Accident with rolling stock in motion	KP (km) 0
Description 13	Train stopped after a passenger fell while boarding the train and was trapped between the platform and train. Passengers were transferred to the rolling stock that arrived with train 19508. The victim had serious injuries to the lower limbs and awaited the arrival of the emergency services which provided medical care.				

RDC No 109032	Date/time 01-06/06:47	Train No 5102 (CP)	Line Vouga	Classification: Derailment	KP (km) 13.750
Description 14	Train stopped at the above KP after the three bogies of the head were derailed. The Area Inspector was designated local emergency coordinator. A breakdown road vehicle was sent to the scene, leaving Contumil at 07:45 and reaching Sernada do Vouga at 09:00. Movement 92244 left Sernada Vouga at 09:40 and arrived at 10:19. A road crane was required. Rerailing began at 14:40 and was completed at 18:00. Normal traffic resumed at 20:05, with reduced speed of 10 km/h between km 13.750 and 13.800, not signalled. The damaged dual diesel unit and the breakdown Allan were hauled to Sernada Vouga by train 5119, where they arrived at 22:37. They stayed on line 1 as they could not be moved after the Allan was blocked.				
RDC No 109688	Date/time 12-06/17:38	Train No 186 (CP)	Line North	Classification: Accident with rolling stock in motion	KP (km) 106.302
Description 15	Train stopped pending the arrival of the emergency services, after striking an 88 year old man, on the crossing of line 5, next to the toilet block. He fell under the train. The body was removed from the track with the permission of the Entroncamento Health Officer at 18:15. The train resumed its journey at 18:25. Request to shut off power for cleaning the track by local emergency coordinator, the Area Inspector. With the arrival of the officer from the Catenary Team for fitting the earth and after suspending traffic between Barquinha, Lamarosa and the Entroncamento neutral zone, the power was shut off from 19:16 to 19:21.				
RDC No 110920	Date/time 30-06/08:46	Train No 62391 CP Carga	Line South	Classification: Accident with rolling stock in motion	KP (km) 301.889
Description 16	Train 62391 struck a man at KP 301.350 on the South line who was walking along the railway line with his back to the train. On hearing the locomotive's horn he tried to get off the track, but failed to do so before being struck. The body was found on the trackside, some five metres from the railway line. He died instantly. The emergency services, Silves National Republican Guard, CP Cargo, PI Setúbal and PCC were notified. The local emergency coordinator was designated for this C-class emergency, who ordered a local speed restriction of 10 km/h, between KPs 301.250 and 301.400 on the South line, stopping at the site. At 09:43 the train advanced to signal S5/M5 to allow train 670 to pass. The emergency services arrived at the scene at around 09:30. As there was no danger, the restrictions imposed earlier were lifted at 10:10. The train resumed its journey to its destination at 10:35. The body was removed from the scene at approximately 11:50.				
RDC No 112423	Date/time 21-07/21:11	Train No 17250 (CP)	Line Alentejo	Classification: Accident with rolling stock in motion	KP (km) 5.000
Description 17	Train 17250 struck a woman at the above KP, who was pushed off the track and survived. The train crew called the emergency services who treated her and took her to Barreiro hospital. A local emergency coordinator was appointed. The train waited at the scene for the authorities to appear and resumed its journey at 21:56.				

RDC No 115729	Date/time 09-09/08:21	Train No 121 (CP)	Line North	Classification: Accident with rolling stock in motion	KP (km) 300.776
Description 18	The train stopped after striking a woman who died instantly. According to statements by the crew, the victim was struck while attempting to climb onto the platform of line 1 on the south side, assuming that she had entered via the pedestrian crossing and walked along the up-line track towards the station. It resumed its journey at around 08:46 after an inspection of the train composition. It was reported to Aveiro CDOS which alerted the other agencies. A local emergency coordinator was designated. The body was removed at 10:00 and the line was reopened from 10:05, with orders to proceed at sight until 10:55 to afford protection for the cleaning work.				
RDC No 115801	Date/time 10-09/07:50	Train No 5701 (CP)	Line Algarve	Classification: Accident with rolling stock in motion	KP (km) 345.110
Description 19	The driver of train 5701 reported feeling a bump on the left in the train's direction of travel, but did not see anything on the track that could have caused it. On reaching Olhão station, dual diesel unit 602 was inspected and traces of blood were found. The PI was notified. The infrastructure operator went immediately to the scene and found the body of a large dog at KP 347.800. Train 5704 waited at Olhão station and the driver reported that he had seen nothing. The infrastructure operator reported finding a body at KP 345.110 about 5 metres from the railway track. A speed restriction was set, with the order to proceed at sight between PKs 345.000 and 345.200.				
RDC No 115906	Date/time 12-09/13:30	Train No 19259 (CP)	Line Cascais	Classification: Accident with rolling stock in motion	KP (km) 9.793
Description 20	A woman was struck while using the station crossing; she died instantly. Traffic was suspended on the up-line track. A Category C emergency plan was implemented. The Traffic Inspector was designated local emergency coordinator and the ticket collector as local emergency manager. At around 14:30 the local emergency coordinator was informed by Oeiras Public Security Police that there was no forecast for the removal of the body. Subsequently Caxias and Algés stations were manned to establish a single-track system with telephone blocking on track D between those stations, which did not materialise owing to a points failure at Algés. The body was removed at 15:35, and normal traffic resumed on track A.				
RDC No 115976	Date/time 13-09/09:35	Train No 131 (CP)	Line North	Classification: Accident with rolling stock in motion	KP (km) 325.365
Description 21	The train was stopped at KP 326.100 after striking a woman who was crossing from the right in the train's direction of travel on a pedestrian crossing behind train 15914, parked at the time at Francelos halt. The crossing is protected with an acoustic signal, which was working. CDOS was notified and the Traffic Controller designated as local emergency coordinator. The body lay off the track, which allowed trains to move, proceeding on sight between KPs 325.350 and 325.380. The body was removed at 10:25, and the speed limits were lifted at 10:27.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
117636	07-10/17:25	809 (CP)	West	Accident at LC	43.252
Description 22	CP-RG reported that train 809 had collided with a lorry that was stuck on the level crossing indicated. The inspector subsequently reported that that lorry came from the left side in the up-line direction. The front bogie of the My 464 was completely derailed and the front was damaged. The right-hand half-barrier motor support was damaged, the level crossing signalling cabinet was ripped off and the track was damaged over a length of 128 m. Train traffic was suspended between Malveira and Pero Negro stations. An emergency call was made to the PCC. A transfer was arranged by road between Malveira and Pero Negro stations. A category C emergency plan was implemented and the Inspector designated as local emergency coordinator. To rerail the My 464, Rauma Repola GY 21 crane truck was called, under movement 95263/62, which left Entroncamento at 21:28 with a 58 minute delay for preparation and shunting. 2011-10-08 08:07 The rerailing took place between 03:30 and 03:45. Train 95233 composed of the G21 and the damaged dual diesel unit set off at 06:30 and arrived at Pero Negro station at 07:09. 2011-10-08 08:22 The line was reopened at 08:10, with a 30 km/h speed restriction between KPs 43.250 and 43.400. Line II at Pero Negro was occupied by the My 464. 2011-10-08 14:56 Normal traffic resumed at 08:10. Thereafter, according to the local emergency coordinator, the Sobral de Monte Agraço National Republican Guard confirmed that the lorry driver suffered severe injuries and was hospitalised for more than 24 hours for treatment of a lung perforated by a rib as a result of the collision. On 09/11/2011 he had already been discharged.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
119341	02-11/13:50	5716 (CP)	Algarve	Accident with rolling stock in motion	340.550
Description 23	Train 5716 struck a male person apparently aged 13 in the middle of the track. The body lay under the train, and the emergency services declared him dead at the scene. The Inspector was designated local emergency coordinator. The IP, PCC and emergency services were notified. Traffic was suspended between Faro and Olhão at 13:55. The transfer between Faro and Olhão was carried out by road. The body was removed from the scene at 15:29. The train resumed its journey at 15:31. Normal rail traffic resumed at 15:35, without restrictions.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
120256	17-11/11:14	808 (CP)	West	Accident at LC	58.939
Description 24	At about 11:14 train 808 struck a moped rider on the level crossing at KP 58.939 on the West line. He approached from the left in the train's direction of travel; the body was mutilated on the track. The local authorities were called, and the Torres Vedras National Republican Guard took charge of the case. The Inspector was designated local emergency coordinator for this category C emergency, and he visited the scene. Train 808 resumed its journey at 12:38, after being released by the authorities. Traffic was suspended between Dois Portos and Torres Vedras after train 808 arrived at Dois Portos. The track was reopened at 13:15 and normal rail traffic resumed at the same time. Train 805 was partially cancelled between Dois Portos and Caldas da Rainha; the composition hauled by train 6415 continued to its destination.				

RDC No 120745	Date/time 27-11/17:36	Train No 92204 (CP)	Line North	Classification: Accident with rolling stock in motion	KP (km) 284.800
Description 25	The train was stopped after striking and killing a man, of unknown identity, who was crossing the track on foot, with a bicycle on his shoulder. Initially the CP Long Haul ticket collector reported that track A was completely free, but after the Estarreja National Republican Guard arrived, body parts were found on track A. Train 15740 returned to Estarreja and train 15643 provided the service. The Traffic Controller was designated local emergency coordinator for this category C emergency. Train 92204 set off at 19:15 after authorisation from the authorities. Track A was reopened at 19:23 and traffic resumed on it, proceeding on sight between KPs 284.700 to 284.900. Track D was reopened without restrictions at 20:00.				
RDC No 121239	Date/time 06-12/15:17	Train No 807 (CP)	Line West	Classification: Accident with rolling stock in motion	KP (km) 35.100
Description 26	At the above KP, the train struck a woman who was on the trackside after crossing the track from right to left in the train's direction of travel. She was assisted by emergency services at the scene and taken to hospital. The Mafra National Republican Guard (GNR) (tel. 261 818 010) took charge of the case. The train resumed its journey at 15:49. The victim was taken to São José Hospital (tel. 218 841 000); GNR record NPP 985/11.1 GBMFR sent to the Court of Mafra. On 21/12/2011 the victim was still in hospital.				
RDC No 121286	Date/time 07-12/12:25	Train No 5714 (CP)	Line Algarve	Classification: Accident with rolling stock in motion	KP (km) 360.300
Description 27	The train struck an elderly man at KP 360.300. According to the ticket collector's statement, he was struck accidentally as he attempted to cross the track at an inappropriate place. The body was thrown off the track. The train was stopped at the scene from 12:25 to 12:57. Traffic was suspended from 13:00 to 13:35, when it resumed with a 10 km/h speed restriction between KPs 360.200 and 360.400, as the victim's body remained at the scene after being given first aid by the emergency services, which left the scene when the victim died. The body was removed at 14:20 and the restrictions were removed.				

Source: Annual Safety Report 2011 – REFER

Instituto da Mobilidade
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Annex G

List of accident precursors

2011

BROKEN RAILS					
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
100903	**22/01/01:30**		**Minho**	**Broken rails**	**4.250**
Description 01	Broken rail at the above KP, circuit 35 A showing as occupied. The track workers fitted two tie bars and set speed limits of 80 km/h between KPs 4.240 and 4.260.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
100908	**22-01/05:50**		**North**	**Broken rails**	**301.300**
Description 02	Broken rail at the above KP, setting signal S-3013A to stop. Repaired, with a speed restriction of 80 km/h between KPs 302.230 and 302.250**.**				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
100996	**24-01/07:35**		**Minho**	**Broken rails**	**6.700**
Description 03	Broken rail at the above KP. Speed restriction of 10 km/h imposed between KPs 6.650 and 6.750. Repaired.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
101017	**24-01/10:00**		**North**	**Broken rails**	**24.270**
Description 04	The track supervisor reported that a broken rail had been detected at the above KP on the down-line track. A speed limit of 10 km/h was imposed between KPs 24.280 and 24.260 by telegram No 206, no local signalling. Repaired provisionally at 11:45; speed limit changed to 80 km/h, signalled, no Convel.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
101083	**25-01/06:15**		**North**	**Broken rails**	**308.800**
Description 05	Signal S 3088 D at stop. Caused by broken rail at KP 307.495. Repaired with speed restriction of 80 km/h between KPs 307.460 and 307.510.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
101142	**26-01/03:20**		**North**	**Broken rails**	**22.730**
Description 06	Track circuit of points No 2-II occupied due to broken rail.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
101450	**31-01/07:58**		**North**	**Broken rails**	**230.260**
Description 07	The automatic protection zone of signal S1 was occupied, due to a broken rail at the above KP. Orders to proceed on sight in that area. Provisionally repaired. Speed restriction of 60 km/h imposed between KPs 230.250 and 230.500.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
101486	**31-01/14:50**		**Beira Alta**	**Broken rails**	**72.230**
Description 08	Broken rail at KP 72230 on the left-hand railhead. Traffic proceeding on sight until the speed restriction was in place. Provisionally repaired, with speed restriction of 60 km/h between KPs 72.200 and 72.250, signalled and with Convel.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
101512	**01-02/05:57**		**Minho**	**Broken rails**	**3.500**
Description 09	Track circuit 35A occupied and signal of the same number at stop and activates LCs 4.1 and 5.1. Upon the arrival of the Dimetronic technician, it was found to be caused by a broken rail at KP 4.300. Accordingly, a speed restriction of 10 km/h was imposed between KPs 4.250 and 4.350. From 08:30, the restriction was raised to 80 km/h between KPs 4.290 and 4310.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
101658	03-02/00:57		Pego branch line	Broken rails	5.220
Description 10	Track circuit RCE.52 occupied owing to a broken rail at KP 5220, preventing the clearing of signals S2/S4 and STD at Pego power station and S9/S7 and STA3 at Mouriscas-A. Repaired.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
101733	04-02/00:50		North	Broken rails	325.600
Description 11	Track circuit downstream of signal 3262D occupied owing to fault. Influences level crossing 323850 which gives an announcement alarm of more than 15 minutes. Caused by broken rail on track D at KP 325.600. Tie rods were fitted and a speed restriction of 60 km/h imposed between KPs 325.610 and 325.580.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
101932	07-02/11:20		North	Broken rails	307.400
Description 12	Broken rail at the above KP; order to proceed on sight between KPs 307.350 and 307.450, raised from 12:20 to 80 km/h between KPs 307.350 and 307.410, local signalling without Convel.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
103353	02-03/17:28		North	Broken rails	224.971
Description 13	Incorrect occupation of track circuit A3, owing to broken rail at KP 225.450. At 20:45 a speed restriction of 80 km/h was imposed between KPs 224.820 and 225.450.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
104422	22-03/04:20		North	Broken rails	30.164
Description 14	Broken rail at KP 28.550, with incorrect occupation of track circuit 287 D. Speed restriction of 80 km/h imposed between KPs 28.570 and 28.560, local signalling without Convel.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
111051	02-07/05:15		Beira Baixa	Broken rails	63.548
Description 15	Broken rail at KP 63.950 - between points 4 and signal S 12 / M 12. The Portucel branch line was closed to rail traffic from 11:50, by telegram No 296 from the Castelo Branco track team.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
111917	14-07/22:50		North	Broken rails	300.776
Description 16	Broken rail on track D at KP 300.750 (Ovar line II). From that time, down-line traffic was routed on line III.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
116775	24-09/21:15		South	Broken rails	44.490
Description 17	Incorrect occupation of track circuit 427, causing an announcement at the level crossing at KP 42.100. The Infrastructure Office was notified. According to information from Dimetronic staff, there was a broken rail at KP 43.250. Accordingly, train 60986 was dispatched with a speed restriction of 10 km/h between KPs 43.200 and 43.300.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
117544	06-10/14:30		Beira Alta	Broken rails	143.880
Description 18	Broken rail. Traffic was ordered to proceed on sight in the area until further notice. At 18:20 a speed restriction of 30 km/h was imposed between KPs 143.865 and 143.915, with signalling and Convel.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
121440	10-12/17:08	96228 (CP)	Alentejo	Broken rails	212.190
Description 19	According to the driver's statement, he felt a heavy blow on the track when passing the above KP. The Infrastructure Office was notified. A track inspection revealed a broken rail; a speed restriction of 10 km/h was imposed between KPs 212.150 and 212.200; no local signalling or Convel.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
122058	21-12/08:55		Algarve	Broken rails	304.690
Description 20	Owing to a broken rail at KP 304.690 on the Algarve line, a speed restriction of 10 km/h was imposed at 09:05 on the section from Tunes to Vila Real de Santo António, between KPs 304.600 and 304.700. At 10:51 it was raised to 30 km/h. Repaired.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
122477	30-12/12:10		Douro	Broken rails	97.380
Description 21	The crew of train 4103 reported a broken rail at the above KP. Trains were ordered to proceed on sight in the area. At 15:15 the track workers imposed a speed restriction of 30 km/h between KPs 97.350 and 97.400.				

TRACK BUCKLES					
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
102176	**11-02/17:07**		**North**	**Track buckle**	**299.220**
Description 01	The driver of train 15637 reported a buckle at KP 299.220, track A. The driver of train 51335 was ordered to proceed on sight in the area and report back on the condition of the track. According to the latter's report, there was no anomaly on the track, and normal rail traffic was resumed.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
104458	**22-03/17:00**		**Sintra**	**Track buckle**	**71.585**
Description 02	The train reported a possible track buckle, some 100 to 200 metres before Cacém station. Following traffic was ordered to proceed on sight. An alignment fault was confirmed at the location. The track alignment was corrected with minor work by the service provider after the temperature had dropped.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
108567	**25-05/15:10**	**542 (CP)**	**Beira Baixa**	**Track buckle**	**154.800/900**
Description 03	The driver of train C 542 reported a small buckle in the track between KPs 154.800 and 154.900, though it did not currently present a danger to rail traffic. Train 5679 was ordered to proceed on sight between those KPs and stop in place if necessary. At 16:50, by means of telegram 330, the track team ordered a speed restriction of 30 km/h between KPs 154.830 and 154.880.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
108572	**25-05/16:05**		**Vouga**	**Track buckle**	**33.270**
Description 04	Track buckle between KPs 33.270 and 34.000. A speed restriction of 10 km/h was imposed by telegram between 17:35 and 11:30 the next day, 26/05/2011.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
109147	**02-06/18:00**		**Vouga**	**Track buckle**	**14.100**
Description 05	The driver of train 5118 reported a track buckle at KP 14.100. Traffic was ordered to proceed on sight between KPs 14.050 and 14.150.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
110611	**26-06/08:37**	**62391 (CP)**	**South**	**Track buckle**	**292.900**
Description 06	A strong oscillation was felt in the track at the above KP. It was reported to the Regional Infrastructure Office. An alignment defect was detected in the track and a speed restriction of 40 km/h imposed between KPs 292.900 and 293 from 10:05.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
110630	**26-06/14:40**	**18788 (CP)**	**Sintra**	**Track buckle**	**16.950**
Description 07	The driver reported feeling a bump in track D between the above KPs. This was confirmed by the driver of train 18790. The track workers confirmed the faulty geometry (kink). Traffic was ordered to stop in place. Traffic was suspended on track D at 17:00. Normal traffic resumed at 19:45, without restrictions.				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
112295	**20-07/14:55**		**Beira Alta**	**Track buckle**	**155.350**
Description 08	A speed restriction of 30 km/h was imposed between the above KPs on account of a track buckle**.**				
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
112868	**27-07/21:30**		**Vouga**	**Track buckle**	**28.500**
Description 09	The driver of train 5215 reported a track buckle at the above KP. The track team was requested to carry out an inspection. Repaired, speed back to normal.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
112923	28-07/14:45		North	Track buckle	331.750
Description 10	The driver of train 525 reported a buckle in track A at the above KP. Traffic was ordered to proceed on sight in the area. The crew of train 51031 reported that the area of the buckle was unsafe to traffic. At 16:28, traffic was suspended on track A between Granja and Gaia, and train 15633 returned. At 16:30 single-track operation was established on track D between Gaia and Granja. To improve traffic flow, single-track telephone blocking was used on track D from 17:30 to 18:02. At 18:55 the track was reopened with a speed restriction of 30 km/h between KPs 331.700 and 331.800, and normal traffic was restored on both tracks at 19:10.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
112926	28-07/15:20		Vouga	Track buckle	15.850
Description 11	The ticket collector of train 5113 reported a buckle at the above KP. Traffic was ordered to proceed on sight in the area. Repaired.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
112937	28-07/16:40		Vouga	Track buckle	19.502
Description 12	The ticket collector of train 5210 reported track buckles at KPs 21.850 and 22.300. Repaired.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
112944	28-07/18:45		Minho	Track buckle	50.289
Description 13	The duty controller at the station reported that a buckle was forming in points IV. After inspection by track workers, a speed limit of 60 km/h was imposed between KPs 50.800 and 50.850.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
113456	06-08/03:45	68890 (CP)	South	Track buckle	290.200
Description 14	After passing the above KP, a strong oscillation in the track was reported. Trains were ordered to proceed on sight. An inspection revealed an alignment defect and a speed restriction of 60 km/h was imposed between KPs 290.200 and 290.300; no local signalling or Convel.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
113777	10-08/17:40		Douro	Track buckle	55.210
Description 15	The Livração Control Centre reported a buckle next to the incoming points in the up-line direction. After an inspection by specialist personnel, a speed restriction of 30 km/h was imposed between KPs 55.200 and 55.220.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
113920	12-08/14:42	23702 (CP)	South	Track buckle	288.000
Description 16	The train driver reported a track buckle at the above KP. The Infrastructure Office was notified. After proceeding on sight through the area the driver of train 62992 said that a small buckle was forming in the rail. He also reported that track workers were present. A speed restriction of 40 km/h was imposed between KPs 287.900 and 288.000.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
114290	18-08/15:30		Douro	Track buckle	133.550
Description 17	A speed restriction of 30 km/h was imposed between KPs 133.500 and 133.650 on account of a buckle.				

RDC No	Date/time	Train No	Line	Classification:	KP (km)
114880	26-08/15:20		Sines	Track buckle	160.940
Description 18	The driver of train 81381 reported feeling a strong oscillation in the track at KP 160.940. It was reported to the Regional Infrastructure Office. A speed restriction of 60 km/h was imposed between KPs 160.900 and 161 from 17:30 until further notice, on account of an alignment fault.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
115126	30-08/19:40	81834 (CP)	Sines	Track buckle	157.400
Description 19	An oscillation in the track was reported between KPs 157.400 and 157.600. The Infrastructure Office was notified. A speed restriction of 60 km/h was imposed between KPs 157.400 and 157.600 from 22:00 on account of level and alignment defects.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
117112	30-09/00:45	68980 (CP)	Sines	Track buckle	157.600
Description 20	A strong impact in the track was reported at the above KP. The Infrastructure Office was notified. A speed restriction of 40 km/h was imposed between KPs 157.550 and 157.650 on account of level and alignment defects. There is no local signalling or Convel control.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
118015	13-10/15:00		West	Track buckle	46.800
Description 21	A buckle in the right-hand rail in the direction of travel was reported at the above KP. Traffic was ordered to proceed on sight until the situation was reassessed. At 16:20 a speed restriction of 30 km/h was imposed between KPs 46.400 and 46.430.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
118122	14-10/19:20		South	Track buckle	265.200
Description 22	The OCC was informed by the driver of train 3704 that a buckle was forming at the above KP. A speed restriction of 60 km/h was imposed between KPs 265.150 and 265.250 from 20:00, on account of an alignment fault.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
118171	15-10/16:17		South	Track buckle	261.500
Description 23	The driver of train 573 reported feeling an oscillation in the track that when running between KPs 261.500 and 261.600, within the speed limit of 30 km/h, and had the impression that a buckle was forming. The speed limit was changed from 30 to 20 km/h, between the KPs concerned, at 16:45 by telegram 64.				
RDC No	Date/time	Train No	Line	Classification:	KP (km)
119597	06-11/14:25		North	Track buckle	272.676
Description 24	It was reported that an oscillation that seemed like a track buckle was felt after leaving line III, 10 metres downstream of signal S7.				

SPAD					
RDC No	**Date/time**	**Train No/Resp.**	**Line**	**Classification:**	**KP (km)**
100247	**10-01/15:44**	**27694/CP LX**	**Sintra**	**SPAD**	**3.100**
Description 01	Signal M6 passed at danger onto Campolide line IV by composition (MY2329 and 2351) which was due to carry out movement 27694 on line II. The driver was replaced.				
RDC No	**Date/time**	**Train No/Resp.**	**Line**	**Classification:**	**KP (km)**
101618	**02-02/09:54**	**15158/CP PT**	**Guimarães**	**SPAD**	**55.693**
Description 02	Call received via ground-train radio from the driver of train 15158, stating that he was stopped at the STD signal, because it was at danger. After giving this information the driver was questioned by the board operator, as to how he left Guimarães, since signal S4 was at danger, with a directional block in the Vizela-Guimarães direction. He replied that he was in doubt about it being clear, since the sun was in his eyes making it hard to see. However, when passing signal S4 he said a Convel error occurred. He was sent back down line 1, after signal M1 was cleared for the purpose, where he waited assurance from CP Porto before proceeding. Subsequently, by superior order, he waited in Lordelo for the ticket collector to join him in the cab, in order to accompany him to the destination. The station was in automatic mode, as the IIP was not triggered. The situation was displayed on Moviola, confirming that signal S4 was passed at danger.				
RDC No	**Date/time**	**Train No/Resp.**	**Line**	**Classification:**	**KP (km)**
102171	**11-02/17:05**	**900/CP RG**	**Cintura**	**SPAD**	**4.050**
Description 03	After completing the passenger service, it resumed its journey passing signal S11/M11 LRE at danger. It was allowed to continue its journey to Entrecampos-Poente, after contact with CP RG and after the safety conditions were met. At 18:38 h, the OCC was informed by CP RG, that the driver had undergone a blood alcohol test and was authorised to drive train 901.				
RDC No	**Date/time**	**Train No/Resp.**	**Line**	**Classification:**	**KP (km)**
107017	**04-05/09:15**	**UM 1932 / CP LC**	**Beira Baixa**	**SPAD**	**93.759**
Description 04	When locomotive 1932 was shunting from siding VI to line II, it slightly overran signal S4/M4 when at danger. Since it was difficult to contact the driver, CP LC was informed. It was initially thought that the circuit was shown as occupied due to a signalling problem.				
RDC No	**Date/time**	**Train No/Resp.**	**Line**	**Classification:**	**KP (km)**
107153	**06-05/10:58**	**77044/CP CARGO SA**	**Beira Alta**	**SPAD**	**54.052**
Description 05	Passed signal S4 at danger. When interviewed, the train crew reported having used the emergency brake but still passed the signal (by about one metre). The train resumed is journey after ensuring safe conditions (clearing signal S6).				
RDC No	**Date/time**	**Train No/Resp.**	**Line**	**Classification:**	**KP (km)**
107416	**10-05/20:29**	**16556/CP LX**	**North**	**SPAD**	**34.102**
Description 06	The train was parked on siding No 2 of the station and emerged from the siding onto line III which was occupied by train 16046, while signal M16 was at danger. The train was dispatched on the instructions of the CP Lx Traction Office. The driver had a blood alcohol test at the CP Lx Service Centre in Campolide.				

RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
108356	23-05/16:31	UM 5614/CP LC	North	SPAD	6.480
Description 07	When locomotive 5614 was shunting from line II to line III for the formation of train 574 the driver passed signal S8/M8 at danger and occupied points circuits 25-II and 29-I. The driver was replaced by order of CP LC.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
108598	25-05/19:30	17244/CP LX	Alentejo	SPAD	15.439
Description 08	The train passed signal S16/M16 at danger, and used emergency braking. It was authorised to resume its journey. It was stopped at Lavradio station on the orders of the PCC from 19:48 to 19:56 while awaiting the ticket collector to accompany the driver to the destination, where the driver was changed.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
109904	15-06/23:55	95230/REFER	North	SPAD	34.102
Description 09	When the Azambuja/Setil desk operator was routing VCC103 out of line III at Castanheira station, signal S10/M10 was passed at danger, performing a trailing movement through points I. The VCC and wagon were totally derailed. The derailment happened in points I at KP 33.410, and the rolling stock came to rest at KP 333.50. Traffic was suspended on the down-line track between Castanheira and Alhandra. The breakdown train crew was requested for rerailing, which went to the scene by road. Rerailing began at 02:10 and was completed at 05:30. The team was composed of one engineer and six labourers. Those involved underwent a blood alcohol test. The network topology was displayed. Service Order 1930 was cancelled by OCC telegram 380. The VCC was rerailed under PATE No 32/2011 with the power cut off on the down-line track between Castanheira do Ribatejo (including lines IIIA from stanchion 33-30 and line IV from stanchion 33-30III) and the ZN of the SST, from 04:04 to 05:31. The derailment damaged 60 metres of sleepers and two Convel beacons. A speed restriction of 80 km/h was imposed between KPs 334.10 and 333.60, signalled but without Convel from 05:30 until further notice. The work was reported complete at 06:35.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
111263	05-07/17:35	23702/CP RG	South	SPAD	28.222
Description 10	The composition arriving as train 23702, on Setúbal line I to switch to track A (towards Palmela) and thence to line III, passed signal S3/M3 at danger, occupying the circuit of points 2_I that were set against the train. Dimetronic was contacted, and found that the points were undamaged.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
111640	11-07/16:35	900/CP RG	West	SPAD	20.320
Description 11	After carrying out the passenger service on Meleças line IV, the train passed signal S4/M4 of that station at danger. It was hauled by the My 451. The driver asked to return to line IV to enable other traffic to come out. He was allowed to continue his journey, accompanied by the ticket collector in the driving cab.				

RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
111946	15-07/09:55	15158/ CP PT	Guimarães	SPAD	55.693
Description 12	Train 15158 set out on line No I, without no action by the IIP or any route planned for the journey, with a reverse block in the Vizela/Guimarães direction. It passed signal S4 at danger at 09:55:05 and the STD signal at 09:56:45. The driver contacted the OCC via ground-train radio, after already passed the STD signal, saying that he exited when the signal was green and when he passed the signals he applied emergency braking and cut the power. Contrary to his statement, it was found that the signal was at danger when the train exited. The driver was immediately told that the signal could not have been clear, since the block was reversed. To avoid staying on open track he was allowed to proceed until Vizela, pending a resolution by CP Porto, and was accompanied by an inspector in the driving cab.					
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
113371	04-08/15:47	18249/CP LX	Sintra	SPAD	17.343
Description 13	The driver of the train passed signal S/7 at danger. He awaited the authorisation of the PCC before resuming his journey. Train 18791 was not run on the wrong track owing to an incompatible routing with train 18249 occupying the circuit. The same driver took train 18016 accompanied by the ticket collector in the cab and was replaced in Barcarena.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
113901	12-08/10:13	92220/REFER	Minho	SPAD	0
Description 14	Special stock movement 92220 (Dresina DP201) passed Porto Campanhã signal S12 at danger, joined line No VII where train 15814 was parked. After blood alcohol tests were carried out on the crew, the journey resumed.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
116384	19-09/14:50	64387/CP CARGA SA	North	SPAD	56.400
Description 15	The train passed S13 (Setil) at danger, since S11 was set to a clear aspect to allow train 24903 to exit, occupying track circuit D12. It reported that it passed the signal due to slippage of the rolling stock. An 'emergency braking' message appeared on the ground radio system.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
116559	21-09/17:24	UM 464/CP RG	West	SPAD	20.320
Description 16	According to a statement by CPRG, when testing the brakes of the rolling stock (464) in siding A3, it rolled back and slightly overshot signal M2 which was at danger. The PCC was informed and, after contacting the CP COC, authorised a manoeuvre to Line I, where the Public Security Police carried out a blood alcohol test at the request of CP Regional, and continued in train 6419.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
116683	23-09/08:03	18209/CP LX	Cintura	SPAD	7.700
Description 17	The train was parked in siding II and set off and passed signal S18/M18 at danger. It was authorised to return to the siding, resuming its journey later to line No II, where it waited. With the authorisation of the PCC, the driver took the train to Cacém, accompanied by the ticket collector, where he was replaced. He went to the Rossio traction depot where he underwent a blood alcohol test.				

RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
119532	05-11/09:17	UM 9631/CP RG	Vouga	SPAD	14.406
Description 18	After train 5108 entered Line 2 at Águeda station, when the dual diesel unit was manoeuvring from line 3 to line 2 to couple with the composition of train 5108, it passed signal S4 at danger, with an uncontrolled stock movement between Agueda and Macinhata. The situation was under control on the arrival of train 5105 in Macinhata. CP-RG was notified.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
120524	22-11/21:40	16050/CP LX	North	SPAD	46.945
Description 19	Unauthorised occupation of the track circuit of points 13 II at the station at 21:40. When asked on ground-train radio whether he had passed the signal S8/M8 at danger, the driver of train 16050 that was parked on line II of Azambuja station, confirmed that he had. After authorisation from the PCC, the train departed at 21:59.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
121316	08-12/07:22	312/CP LC	Beira Alta	SPAD	97.960
Description 20	Passed signal S2 at danger. Authorised to proceed to line II after assurance of immobilisation of stock movement 95249 at signal S1 and clearing of signal M2. Superior authorisation to resume the movement.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
121472	11-12/10:30	5107/CP RG	Vouga	SPAD	14.406
Description 21	Águeda signal S4 passed at danger, with an uncontrolled stock movement in the canton between Águeda and Macinhata. When the train crew was confronted, they said that the signal seemed to be clear. Train 5110 awaited orders from the PCC and continued with the ticket collector accompanying the driver to Aveiro. A blood alcohol tested was carried out in Aveiro and the service resumed.				
RDC No	Date/time	Train No/Resp.	Line	Classification:	KP (km)
122017	20-12/21:31	UM 2387/CP LX	Sintra	SPAD	27.170
Description 22	When shunting the rolling stock away from train 18823, from Sintra line III to line IV and shunting behind the M1, the driver passed the signal at danger. He immediately called on the ground-train radio to report that he had passed the signal at danger, after allowing the rolling stock to roll back. Once the PCC had been informed, he was authorised to resume the movement to its destination on line IV. He drove MY 2387, coupled to 2453. The operator was informed.				

WHEELS AND AXLE CASINGS					
RDC No	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
102371	**15-02/13:57**	**62341 (CP)**	**Beira Alta**	**Wheels and axle casings**	**126.450**
Description 01	According to the statement by the train's Support Operator, at the above KP the first bogie of the first carriage of the train derailed after crossing the points of the SIAF branch line. Emergency call No 19670 at 14:00. Traffic was suspended from that time between Mangualde and Nelas. A breakdown train was arranged from Pampilhosa under movement 95227 at 14:50. The breakdown train waited at Nelas station for wagons that were not derailed to be removed by the locomotive of movement 95221. The rolling stock continued under movement 98206 to Pampilhosa, arriving in Nelas at 17:07. Trains 512 and 513 were partially cancelled between Mangualde and Santa Comba Dão, with transfers by road between these stations. Trains 5410 and 5413 partially cancelled between Mangualde and Nelas, with transfers by road. Breakdown train arrived at the scene at 17:25 with a crew of eight (engineer, foreman and six labourers). Rerailing started at 17:35. At about 19:10 the wagon was re-railed, and then needed to be hauled on supports to Mangualde station where it arrived at 21:38. The breakdown train reached Mangualde at 21:44 and clearance was given for rail traffic, with a speed limit of 30 km/h between KPs 125.900 and 126.450, with local signalling and CONVEL. Track circuit 1257 showed as occupied but was restored to normal after train 514 passed. That derailed wagon remained in Mangualde station awaiting inspection by rolling-stock maintenance. The breakdown train left on train 62430.				

SIGNAL FAILURES					
No. RDC	**Date/time**	**Train No**	**Line**	**Classification:**	**KP (km)**
Description	**NONE**				

* Source: Annual Safety Report 2011 – REFER