

Ref. No. ANSF 06190/10

Florence 30 September 2010

EUROPEAN RAILWAY AGENCY 160 boulevard Harpignies

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Subject: Annual safety Report – year 2009 Attachment: 1

As requested by Article 18 of the 2004/49/EC Directive on safety on the Community's railways (Railway Safety Directive), please find here attached the Italian Annual Safety Report – year 2009, also addressed by email to <u>NSAreport@era.europa.eu</u>.

The Director Mr Alberto Chiovelli



ANNUAL REPORT ON RAILWAY SAFETY

for Italian railways regulated by the National Railway Safety Authority

FOR THE YEAR 2009

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PART A – GENERAL INFORMATION

A.1 Purpose and scope of the Report

This document has been prepared in accordance with Article 7 of Legislative Decree No 162 of 10 August 2007 'Implementing Directives 2004/49/EC and 2004/51/EC on safety on and the development of the Community's railways', which embodies Article 18 of Directive 2004/49/EC.

This describes the trend in safety over the course of the year 2009 on the Italian railways, which consists of the national rail infrastructure, the management of which is contracted out on a concession basis by Rete Ferroviaria Italiana SpA by Decree 138-T of 31 October 2000 of the Transport Ministry (the instrument of concession) and of the rail transport service operated over the infrastructure by railway undertakings holding a safety certificate.

With regard to the regional networks, for which the application of Legislative Decree No 162/2007 is postponed for three years as laid down in Article 27(4) of the Decree itself, the Report sets out the safety indicators referred to at 1.1 and 1.2 of Annex 1 to said Legislative Decree No 162/2007, calculated from data collected by the Italian National Statistical Institute [Istituto nazionale di statistica – (ISTAT)].

A.2 Summary in English

[the following passage down to the end of Part A is in English in the source text]

PURPOSE AND SCOPE OF THE REPORT

The present report has been worked out in conformity to the Art. 7 of the Legislative Decree 10.08.2007 n. 162 "Implementation of the EU Dir. 2004/49/CE and 2004/51/CE" applying the Art. 18 of the EU Dir. 2004/49/CE. It describes the evolution of safety on the part of the Italian railway system under the Italian National Safety Authority supervision in 2009, which consists of:

- the national railway infrastructure granted, for the exploitation, to Rete Ferroviaria Italiana S.p.A. (RFI), by the Ministry of Transport Decree n. 138-T of 31/10/2000;
- the certified railway undertakings operating on the network managed by RFI.

The report has been structured considering the ERA documents: "Template -Structure for the content of the NSA Annual safety Report" (Version 14 of 25/08/2009) and "Guidelines for the use of the template – structure for the content of the NSA Annual safety Report" (Version 10 of 25/08/2009). It is published on the Italian National Safety Authority website (www.ansf.it).

ORGANISATION

Starting from the 1 January 2010 the Italian National Safety Authority is responsible for the supervision of national infrastructure manager (RFI) safety activities.

Currently, the Italian National Safety Authority is carrying out the following tasks:

- the technical regulation;
- the technical admission of rolling stock;
- the technical admission of infrastructural subsystems;
- the safety certification of the RUs and the safety authorisation of the IM;
- the audit and monitoring activity on RUs and IM.

THE DEVELOPMENT OF THE RAILWAY SAFETY

During 2009, the most significant safety measures triggered by accidents/precursors are the following:

- measures related to the rolling stocks maintenance (replacement of couplings, traceability of maintenance, specific measures for axels as a result of Viareggio accident's investigation, specific measures for dampers);

participation to ERA task force on Viareggio accident;

- request for protection of shunting movements with technology similar to ATP system and reduction of the interferences between shunting movements and train movements;

- improvement of the monitoring of hot-spots for hydrogeological problems and implementation of specific measures;

- technological equipping of passengers rolling stocks in order to prevent falling from a trains was completed at the end of 2009;

- enforcement of the checks on dangerous goods transports and involvement of RUs to adopt specific measures to prevent small release of dangerous goods.

The most significant safety measures with triggers other than accidents/precursors are:

- · identification of roles and responsibilities in the changed institutional framework;
- interdiction of circulation of trains without ATP systems, unless the adoption of specific conditions (they must be in program of equipping with ATP systems, they can circulate with speed reductions); dangerous goods must be transported with operating ATP systems;
- alignment of regulations on technological changes of high speed lines;
- measures to manage exit areas on the high speed line Florence-Bologna;
- starting contacts with NSAs of neighbouring countries to manage the different circulation conditions at the border;
- improvement of some SMS processes, implementation of SMS processes as they are described, improvement of train doors maintenance process (results of the audits on RUs and IM);
- improvement of the monitoring activities on the RUs and IM;
- organisation of training for RUs and IM in conformity with the Legislative Decree 10.08.2007 n. 162 'Implementation of the EU Directives 2004/49/CE and 2004/51/CE'.

IMPORTANT CHANGES IN LEGISLATION AND REGULATION

In 2009 the analysis of the existing safety regulatory framework was completed with the issue of the Decree 1/2009, which defines the changed institutional framework.

THE DEVELOPMENT OF THE SAFETY CERTIFICATION AND AUTHORISATION

Neither safety certificates nor safety authorisations have been delivered in conformity to the articles 10 and 11 of the Dir. 2004.49, as implemented by the Legislative Decree 10.08.2007 n. 162. During 2009 the new Certificates and the extensions have been delivered according to the existing procedures, without the distinction in Part A and Part B. A new procedure for the delivering of the safety certificates and the extensions cannot be delivered according to the existing procedures; the RUs are going to ask conversion of their Safety Certificates as required by European Regulation 653/2007.

The Italian National Safety Authority has assumed the competencies to deliver Safety

Authorisation at the beginning of the 2010.

SUPERVISION OF RAILWAY UNDERTAKINGS AND INFRASTRUCTURE MANAGER

The supervision of RUs and IM is mainly achieved through:

- data trend monitoring and analysis;
- investigation carried out by Italian National Safety Authority of accidents to find causes and to define appropriate measures;
- audit and inspections;
- analysis of the Annual Safety Reports by RUs and IM.

REPORTING ON THE APPLICATION OF THE CSM ON RISK EVALUATION AND ASSESSMENT

In the report an RU's voluntary application of the European Regulation 352/2009 is described: it is related to changes of high speed lines services. The RU's procedure covers some significant steps of the evaluation process required by the CSM.

CONCLUSIONS, PRIORITIES, SAFETY RECOMMENDATIONS

The NSA confirmed, however, the 2008 targets, listed below:

- reduction of the technological and structural discontinuities inside the railway system and in the external interfaces;

- reduction of human factor errors;
- reduction of lacks in the infrastructure and rolling stock maintenance process.

A priority was the completion of the equipping of the technological systems for ATP. Solutions to extend these systems also for other kind of rolling stocks are under study. It is still necessary to make the safety management systems more effective. Relating to passengers involved in "accidents caused by rolling stock in motion" significant projects has been adopted to mitigate connected risks, such as technological equipping of rolling stock, organisational aspects and press campaigns.

Following Viareggio accident the traceability of the maintenance processes has been required.

In 2009 there has been a further increase of the incidents connected to the transport of dangerous goods (load problems or defectiveness of the tanks) that requires improvement of the control system and check at the borders.

PART B – INTRODUCTION

B.1 Introduction to the Report

This report describes safety trends in the Italian railway system, which the Authority is responsible for regulating and supervising.

The report, which is set out according to the guidelines given in the 'Template – Structure for the content of the NSA Annual safety Report' (Version 14) and 'Guidelines for the use of the template – structure for the content of the NSA Annual safety Report' (Version 10), issued by the European Railway Agency (ERA) on 25 August 2009, is published on the National Railway Safety Authority website <u>www.ansf.it</u>, and has been forwarded to the European Railway Agency.

B.1.2 Acronyms and definitions

The following table sets out the definitions used in the document but which are not to be found in Legislative Decree No 162/2007.

Term	Definition							
Authority	National Railway Safety Authority [Agenzia Nazionale per la Sicurezza delle Ferrovie]							
ERA	European Railway Agency							
RFI	Italian railway network (Italian national infrastructure operator)							
	Accidents are classed as 'IUR' [International Union of Railways], provided they appear in the statistics of that organisation, if they have had the following consequences:							
IUR accident	 fatalities (persons killed immediately or dying within 30 days as a result of the accident) or serious injury (persons hospitalised for more than 24 hours), excluding suicides or attempted suicides. Deaths due to crime or to natural causes are also excluded; 							
	 significant damage to rolling stock, infrastructure or installations (damage greater than or equal to EUR 150 000) or serious disruption to traffic (main line blocked for more than six hours, diversion or transfer of passengers). 							
	IUR accidents do not include incidents on stretches of line blocked to rail traffic.							
	The following IUR accidents are classified as 'typical' by the Italian State Railways:							
	 collisions between rolling stock or between rolling stock and obstacles, excluding level-crossing accidents; 							
typical accidents	 derailments (of trains, during shunting or of isolated locomotives); 							
	 level-crossing accidents involving collisions between rail and road vehicles at level crossings; 							
	 fires in rolling stock in service. 							
non-typical	On the Italian State Railways non-typical accidents are defined as accidents persons caused by rolling stock in motion. They include accidents that may occ to persons who:							
accidents	 are taking part in shunting or coupling of vehicles; 							
	are standing or walking on railway premises:							

Term	Definition				
	 are hit by an obstacle or vehicle while being transported by a railway vehicle; 				
	 fall from a railway vehicle in motion; 				
	 are run down at a level crossing. 				
critical area	Area within which action needs to be taken in order to achieve the macro-targets.				
macro-target	Desired state of the system to be achieved.				

B.2 Information on the structure of the rail system

B.2.1 Network map

The national rail infrastructure map in Annex A.1 is also available on the website <u>www.rfi.it</u> (under 'Rete e territorio. La rete oggi. [Territory and projects: the network today]).

B.2.2 Infrastructure operator

Rete Ferroviaria Italiana S.p.A. Piazza della Croce Rossa 1, 00161 Rome, Italy, is licensed to manage the national railway infrastructure, which is 16685 kilometres in length.

The main information concerning this network is set out in the table in Annex A.2. This information has been supplied by 'Rete Ferroviaria Italiana' [Italian Rail Network] (hereinafter 'RFI') in its annual Safety Report for 2009.

B.2.3 List of the Railway Undertakings

Railway Undertakings holding Safety Certificates as at 31 December 2009, which are, therefore, licensed to provide freight or passenger services on the national infrastructure, are listed in Annex A.2. The table gives the following information supplied by the Undertakings in their annual Safety Reports for 2009, forwarded to this Authority:

- details of the most recent safety certificate issued under Directive 2001/14/EC. It is to be noted that no safety certificates under Directive 2009/49/EC (parts (a) and (b)) were issued in 2009, hence the relevant column is omitted from the table;
- the date of commencement of trading;
- the types of service authorised;
- make-up of rolling stock used. As regards hauled freight stock, it should be

noted that only the railway undertaking Trenitalia S.p.A. has stock registered in its own park.

- the make-up of the staff performing safety tasks;
- the make-up of the services (passenger and freight) provided, expressed in train-kilometres, net of in-service traffic volumes from other railway undertakings; this is for the purpose of indicating the exact number of trainkilometres performed by each individual undertaking, where the undertaking is called upon to provide a direct guarantee of traffic safety.

The following table 'Traffic Data 2009 on RFI network' provides data on passenger and freight services provided by the railway undertakings operating over the national infrastructure in 2009. It also breaks down traffic volumes into services provided (to other railway undertakings) and services received (from other railway undertakings).

This information, forwarded by each of the undertakings in its 2009 annual Safety Report, cannot be compared with the data for previous years, as those were calculated in relation to the railway undertaking that owned the time slot.

The table also shows the percentage of train-kilometres covered by Automatic Train Protection systems. The percentage of protected traffic rose from 78% of total traffic in 2008 to 85.5% in 2009.

		2009 traffic data on RFI network											
	passenger train-kilometres freight tra			train-kilo	metres	other train-kilometres					total ATP-	% ATP-	
		service		-	services			service	service	total train-	% of total	equipped	equipped
Railway Operator	totals	s	services	totals	provide	services	totals	s	S	Kilometres	traffic	train-	train-
Trenitalia	266.365	0	1 809 000	36 110		173 000	4 702	0		307 177 000	95.03%	267 196 000	87 0%
	758 334	0	003 000	0	0	0	- 102	0	0	758 334	0.23%	538 366	71.0%
Rail Traction Company	0	0	0	2 296 067	0	0	0	0	0	2 296 067	0.20%	1 262 837	55.0%
Serfer	28 601	0	0	837 825	38 950	0	0	0	0	866 426	0.77%	866 426	100.0%
Hupac	0	0	0	18 614	0	0	30 634	0	0	49 248	0.02%	20 205	41.0%
Ferrovie Emilia	11 700 000	0	0	0	43 291	0	0	0	0	1 700 000	0.53%	703 245	41.4%
Nord Cargo	0	0	0	1 430 269	0	0	-	-	-	1 430 269	0.44%	1 053 013	73.6%
Ferrovia adriatico	661 270	0	0	209 796	0	0	0	0	0	871 066	0.27%	738 812	84.8%
SBB Cargo Italia				1 899 358	4 385	246 778				1 899 358	0.59%	759 743	40.0%
Metrocampania Nordest	393 815	0	0	0	0	0	0	0	0	393 815	0.12%	165 597	42.0%
SAD	1 057 332	0	0	0	0	0	0	0	0	1 057 332	0.33%	1 057 332	100.0%
Captrain (formerly SNCF Fret Italia)	0	0	0	284 333	0	0	78 062	0	0	362 395	0.11%	362 395	100.0%
RailOne	0	0	0	0	0	0	0	0	0	0	0.00%	0	0.0%
Ferrovie Udine Cividale	data	not supp	olied	data	not sup	olied	data	not sup	olied		data not	supplied	
Crossrail Italia	0	0	0	209 909	0	0	0	0	0	209 909	0.06%	209 909	100.0%
Veolia Cargo Italia	0	0	0	105 000	0	0	0	0	0	105 000	0.03%	57 300	54.6%
Ferrovie del Gargano	264 940	264 940	0	0	0	0	0	0	0	264 940	0.08%	0	0.0%
RFI	0	0	0	0	0	0	174 460	174 460	0	174 460	0.05%	174 460	100.0%
InRail	0	0	0	87 862	5 505	40 252	0	0	0	87 862	0.03%	87 862	100.0%
Compagnia Ferroviaria Italiana	0	0	0	120 000	0	0	0	0		120 000	0.04%	0	0.0%
Sistemi Territoriali	994 000	0	0	111 000	0	0	0	0	0	1 105 000	0.34%	20 400	1.8%
Trasporto Ferroviario Toscano	0	0	0	68 930	68 930	0	0	0	0	68 930	0.02%	68 930	100.0%
Nuovo Trasporto Viaggiatori	0	0	0	0	0	0	2 469	0	0	2 469	0.00%	2 469	100.0%
Ferrotramviaria	63 098	63 098	0	0	0	0	0	0	0	63 098	0.02%	63 098	100.0%
Ferrovia Centrale	923 144	896 628	0	0	0	0	0	0	0	923 144	0.29%	319 492	34.6%
Gruppo Torinese	349 000	223 000	0	0	0	0	0	0	0	349 000	0.11%	246 000	70.5%
Linea	0	0	0	385 292	0	0	0	0	0	385 292	0.12%	385 292	100.0%
Rail Italia	0	0	0	3 920	0	0	7 768	0	0	11 688	0.00%	11 688	100.0%
DB Schenker Italia	0	0	0	522 561	0	0	0	0	0	522 561	0.16%	data not s	supplied
Ferrovie della Calabria	0	0	0	0	0	0	0	0	0	0	0.00%	0	0.0%
Arenaways	0	0	0	0	0	0	0	0	0	0	0.00%	0	0.0%
Interport Servizi Cargo	0	0	0	0	0	0	0	0	0	0	0.00%	0	0.0%
GTS	0	0	0	0	0	0	0	0	0	0	0.00%	0	0.0%
TOTAL	273 558	1 447	1 809 000	44 700	161 061	460 030	4 995	174 460	0	323 254 663	100 <u>.</u> 00%	276 370 871	85.5%

The following table shows an overall comparison with traffic information for 2008:

	Traffic data on RFI network								
			2008		2009				
Railway Operator	total train- kilometres	% of total traffic	ATP-equipped train-kilometres	% ATP- equipped train- kilometres	total train- kilometres	% of total traffic	ATP-equipped train-kilometres	% ATP- equipped train- kilometres	
TRENITALIA SPA	326 171 000	96.16%	260 752 000	79.9%	307 1 77 000	95.0%	267 196 000	87.0%	
Le Nord	581 406	0.17%	130 532	22.5%	758 334	0.2%	538 366	71.0%	
Rail Traction Company	2 450 000	0.72%	0	0.0%	2 296 067	0.7%	1 262 837	55.0%	
IMPRESA FERROVIARIA ITALIANA SPA	231 390	0.07%	0	0.0%	Service	Contract	cancelled in Octob	ber 2008	
SERFER – Servizi Ferroviari S.r.l.	820 574	0.24%	231 200	28.2%	866 426	0.3%	866 426	100.0%	
H U PAC S.ρ .Α.	55 000	0.02%	0	0.0%	49 248	0.0%	20 205	41.0%	
Ferrovie Emilia Romagna S.r.l.	1 360 000	0.40%	502 000	36.9%	1 700 000	0.5%	703 245	41.4%	
NORD CARGO	1 054 396	0.31%	93 915	8.9%	1 430 269	0.4%	1 053 013	73.6%	
FERROVIA ADRIATICO SANGRITANA SRL	681 000	0.20%	520 000	76.4%	871 066	0.3%	738 812	84.8%	
DB SCHENKER RAILION ITALIA SRL	528 836	0.16%	160 711	30.4%	522 S61	0.2%	data not	supplied	
SBB CARGO ITALIA	1 824 347	0.54%	191 324	10.5%	1 899 358	0.6%	759 743	40.0%	
METROCAMPANIA NORD EST SRL	396 559	0.12%	2 133	0.5%	393 315	0.1%	165 597	42.0%	
SAD	270 000	0.08%	94 000	34.8%	1 057 332	0.3%	1 057 332	100.0%	
SNCF FRET ITALIA	367 838	0.11%	0	0.0%	362 395	0.1%	362 395	100.0%	
RAILONE	13 965	0.00%	6 689	47.9%	0	0.0%	0	0.0%	
Ferrovie Udine Cividale s.r.l.	27 080	0.01%	0	0.0%		data	not supplied		
Crossrail Italia srl	54 786	0.02%	0	0.0%	209 909	0.06%	209 909	100.0%	
Veolia Cargo Italia srl	3 000	0.00%	0	0.0%	105 000	0.03%	57 300	54.6%	
Ferrovie del Gargano srl	43 320	0.01%	0	0.0%	264 940	0.08%	0	0.0%	
RFI	680 956	0.20%	0	0.0%	1 74 460	0.05%	174 460	100.0%	
Sistemi Territoriali SpA	226 000	0.07%	0	0.0%	1 105 000	0.34%	20 400	1.8%	
Trasporto Ferroviario Toscano S.p.A.	83 172	0.02%	0	0.0%	68 930	0.02%	68 930	100.0%	
Ferrovia Centrale Umbra srl	756 096	0.22%	75 800	10.0%	923 144	0.29%	319 492	34.6%	
Gruppo Torinese Trasporti SpA	332 000	0.10%	240 000	72.3%	349 000	0.11%	246 000	70.5%	
FERROVIA LINEA SRL	188 000	0.06%	81 000	43.1%	385 292	0.12%	385 292	100.0%	
Inrail			•		87 862	0.03%	87 862	100.0%	
Rail Italia					11 688	0.00%	11 688	100.0%	
Ferrovie della Calabria					0	0.00%	0	0.0%	
Compagnia ferroviaria italiana	120 000 0.04% 0 0.0%						0.0%		
Arenaways		Service Con	act issued in 2008		0	0.00%	0	0.0%	
Interport Servizi Cargo	0 0.00% 0 0.0%						0.0%		
Nuovo Trasporto Viaggiatori					2 469	0.00%	2 469	100.0%	
Ferrotramviaria					63 098	0.02%	63 098	100.0%	
TOTAL	339 200 721	100 00%	263 081 304	77.6%	323 254 663	100 00%	276 370 871	85 5%	

The programme to equip rolling stock with train movement protection on-board subsystems continued in the course of 2009; progress made at 31 December 2009 in equipping stock is shown for each undertaking in the following table. It should be stated that the information cannot be compared with the previous year because it refers to cabs while last year's information referred to vehicles.

		Automatic Train Protection (ATP)-equipped	% equipped
Irenitalia	4529	3784	83.6%
Le Nord	177	108	61.0%
Rail Traction Company	90	90	100.0%
SERFER – Servizi Ferroviari	11	0	0.0%
Hupac S.p.A.	3	1	33.3%
Ferrovie Emilia Romagna S.r.I.	132	35	26.5%
Nord Cargo	46	26	56.5%
Ferrovia Adriatico Sangritana	32	8	25.0%
SBB Cargo Italia	44	40	90.9%
Metrocampania Nordest	45	4	8.9%
SAD	40	40	100.0%
SNCF Fret Italia	52	0	0.0%
Railone	5	1	20.0%
Ferrovie Udine Cividale	0	0	0.0%
Crossrail Italia	7	7	100.0%
Veolia Cargo Italia	3	3	100.0%
Ferrovie del Gargano	18	0	0.0%
Sistemi Territoriali	13	13	100.0%
Trasporto Ferroviario Toscano	6	4	66.7%
Ferrovia Centrale Umbra	60	8	13.3%
Gruppo Torinese Trasporti	36	22	61.1 %
Linea	14	0	0.0%
Db Schenker Italia		Data not sup	plied
Inrail	4	0	0.0%
Compagnia ferroviaria italiana	2	0	0.0%
Nuovo Trasporto Viaggiatori	0	0	0.0%
Ferrotramviaria	0	0	0.0%
Rail Italia	6	6	100.0%
Ferrovie della Calabria	2	1	50.0%
Arenaways	2	2	100.0%
Interport Servizi Cargo	0	0	0.0%
GTS	6	6	100.0%
TOTAL	5 385	4 209	78.2%

Due to the impossibility of equipping all rolling stock by the intended date of 30 June 2009 and in order to avoid taking a considerable proportion of rail traffic out of service, Directive 1/Dir/2009 of 3 June 2009 was issued following guidelines issued by the Minister for Infrastructure and Transport. This allows the movement of stock not yet equipped with the systems from 1 July 2009, provided the stock is included in equipment programmes deemed consistent and subject to adoption of certain traffic-

reducing measures, including maximum speed limitations.

In some cases, exceptional temporary exemptions with appropriate mitigation measures have been granted for particular sections and railway undertakings.

For trains carrying dangerous goods, the Authority issued a memo (ref. ANSF No 4203/09) on 27 July 2009 specifying that drive cabs with safety equipment should be used at all times as a compulsory requirement. The need to continue transport services led to the granting of special derogations with the consequent introduction of stringent mitigating measures.

The following table sets out for each railway undertaking data on the number of certificates issued to staff carrying out safety functions (driving, crewing, checking and train make-up) in 2009. The data have been supplied directly by the undertakings in the Annual Safety Report for 2009.

The Drivers, Checkers, Making-up and Crew columns give the number of staff holding the relevant certifications, while the number given in the totals column represents the number of the staff performing safety tasks and not the sum of those engaged in each of the activities. This is because any one individual may be qualified for more than one safety task.

RAILWAY OPERATOR	Drivers	Crew	Checkers	Making-up	total staff performing safety tasks	% of national total of staff performing safety tasks
Trenitalia	18 027	8 976	1 650	6 081	30 517	86.18%
Le Nord	333	322	18	5	678	1.91%
Rail Traction Company	97	97	21	112	134	0.38%
SERFER – Servizi Ferroviari	67	87	123	360	450	1.27%
Hupac S.p.A.	5	3	21	38	62	0.18%
Ferrovie Emilia Romagna S.r.I.	259	286	57	167	502	1.42%
Nord Cargo	77	12	29	29	147	0.42%
Ferrovia Adriatico Sangritana	35	43	9	12	80	0.23%
SBB Cargo Italia	216	29	73	229	330	0.93%
Metrocampania Nordest	44	32	0	4	80	0.23%
SAD	56	53	1	28	86	0.24%
SNCF Fret Italia	71	11	50	59	77	0.22%
Railone	9	4	4	9	9	0.03%
Ferrovie Udine Cividale	8	7	0	7	14	0.04%
Crossrail Italia	21	8	7	4	41	0.12%
Veolia Cargo Italia	23	2	18	23	28	0.08%
Ferrovie del Gargano	19	24	0	0	43	0.12%
RFI	40	29	39	1 340	1 448 (*)	4.09%
Sistemi Territoriali	41	38	2	52	124	0.35%
Trasporto Ferroviario Toscano	25	21	2	6	67	0.19%
Ferrovia Centrale Umbra	52	52	0	0	140	0.40%
Gruppo Torinese Trasporti	58	35	2	21	116	0.33%
Linea	48	0	24	30	92	0.26%
Inrail	5	4	5	3	17	0.05%
DB Schenker Italia			D	ata not supp	lied	
Compagnia ferroviaria italiana	14	5	4	5	23	0.06%
Nuovo trasporto viaggiatori	23	1	1	0	25	0.07%
Ferrotramviaria	6	3	1	2	12	0.03%
Rail Italia	21	16	19	20	34	0.10%
Ferrovie della Calabria	1	1	1	1	3	0.01%
Arenaways	1	1	0	1	2	0.01%
Interport servizi Cargo	Data not supplied					
GTS	15	0	5	0	29	0.08%
TOTAL	19 717	10 202	2 186	8 648	35 410	
(*) the number of staff authorised for driving, checking, crewing and making-up is shown for RFI The total number of all staff carrying out safety activities is 21 401.						

B.3 Summary and analysis of the general trend in railway safety

The trend in safety during 2009 was significantly affected by the railway disaster that took place in Viareggio on 30 June 2009, which led to very severe consequences in terms of victims and damage. For details of the event and mitigating measures adopted, see point D below.

Otherwise in 2009 a general reduction was noted in the number of accidents compared to the previous year.

To allow comparison with the historical trend in number of accidents, a graph using historical data classified in accordance with a system established by the International Union of Railways (IUR -Union Internationale des Chemins de Fer – UIC) – is again used in 2009. This data is analysed both as a whole and broken down as between 'typical' and 'non-typical' accidents. This breakdown arises from the need to focus the analysis on typical accidents most directly influenced by activities inherent in railway safety management, dealing separately with the problems related to the – more

numerous – non-typical accidents, which are largely a function of infringements of rules on safety and railway policing by travellers or persons outside the rail service.

Diagram B.3.1 shows trends in the number of accidents over the period 1992-2009. The split in the curves of the graph at the year 2006, for which two values are given, is the result of the IUR raising (from $\leq 10\,000$ to $\leq 150\,000$) the cost of damage above which the accident must be reported to the IUR itself, and a change in the way serious injury is identified.



Graph B.3.1 'Trend in accidents over the period 1992-2009'

As stated in the previous annual report, the change in the definition of serious injury has had only a marginal effect on accident trends. This is demonstrated by the fact that non-typical accidents, which by their nature cause little damage to property, have been almost unaffected by the alteration to the reference thresholds. It actually appears more difficult to compare data for typical accidents, especially in view of the reference minimum for quantifying damage and loss being now 15 times greater than previously. An analysis of collected data confirms the falling trend already highlighted for 2008.

PART C – ORGANISATION

The National Rail Safety Authority, established by Legislative Decree No 162 of 10 August 2007 is a non economic public agency, being independent of the Investigation body and the rail operators. It is supervised by the Ministry of Infrastructure and Transport.

The tasks of the Authority as laid down by Legislative Decree No 162/2007 are, briefly:

- to act as technical regulator;
 - to approve system and sub-system technologies;
 - safety certification of the railway operators;
 - to check that the rules are being correctly applied.

In the wake of the granting of managerial and financial independence to the Authority, the above decree provided for a system of 'initial application', through appropriate Agreements with the Authority itself and 'Gruppo FS (Ferrovie dello Stato)' [State Railways Group] for use of staff and logistic support. This is in order to enable transfer of railway safety tasks from staff already dealing in part with the safety of train movements and of railway operation (by RFI, the State Railways Group in general and the Ministry) to the Authority.

Consequently, on 21 May 2008 a Convention was signed between the Authority, the State Railways Group and the Ministry of Infrastructure and Transport whereby pursuant to Minute No 1 of 6 June 2008 implementing the Convention, ratified by Decree No 2043, 10 June 2008, of the Ministry of Infrastructure and Transport, the Authority on 16 June 2008 commenced operations with around 100 staff brought in largely from the State Railways Group (especially RFI), and to a minimal extent – a few individuals – from the Ministry of Infrastructure and Transport.

By the aforesaid Minute No 1 and the corresponding ratification document, the Authority has so far taken over only part of the tasks laid down in the decree, mainly as regards:

- issue of technical rules;
- safety certification of railway undertakings;
- technical approval of rolling stock;
- checks on correct application of rules;

and solely within the limits of the RFI network.

Minute No 2 of 22 December 2009 between the Ministry of Infrastructure and

Transport, Gruppo FS and the Authority, ratified by Ministry of Infrastructure and Transport Decree 5035 of 29 December 2009, transferred the remaining powers for traffic safety not transferred by Minute No 1 as of 1 January 2010, with the RFI remaining responsible for them to that date:

- Authorisation for RFI infrastructure subsystem service start-up
- technical acceptance of structural ground systems used by RFI and connected with traffic safety,
- acceptance of safety management systems and maintenance systems for which RFI is responsible,
- issue, maintenance, amendment and revocation of RFI safety authorisation.
- inspection, audit and monitoring of RFI activities.

In a bid to take over the remaining safety tasks, concerning mainly the ground systems, and to increase the Authority's inspection powers, an enquiry was launched within the State Railways Group ('Gruppo FS') during 2009 to identify staff with the necessary qualifications. This led to the Authority asking Gruppo FS to allocate an additional 34 staff units.

The additional staff allocation took place to coincide with Minute No 2 of 22 December 2009, which was when the remaining institutional tasks were taken over.

The Authority's operating rules (which take the form of a Presidential Decree) concerning the Statute, the organisation and the management of the accounts, referred to in Article 4(6) of Legislative Decree No 162/2007, were published in Official Journal No 92 of 21 April 2009 (S.O. No 56/L). The fourth and final regulation, which will also take the form of a Presidential Decree, concerning recruiting, is currently being drawn up.

Decree Law No 135 of 25 September 2009 issued during 2009 (converted, with amendments by Law No 166/2009), made additional amendments to Legislative Decree No 188/03 with reference to the Regulatory Body. Measures were also adopted for the running of the Authority, indicating the contractual grade to which staff employed by the Authority belonged.

In the initial application phase, restricted to the tasks taken over under 'Minute No 1', the Authority by Service Order No 1 of 3 October 2008 provided itself with a provisional organisation of activities based on an administrative sector and five technical sectors, i.e.:

- administration, legal affairs and finance;
- monitoring, databases and institutional relations;
- operating instructions;
- technical standards;
- authorisation and certification;
- inspection and controls.

The way the Authority is organised at present is shown in the diagram set out in Annex B.1.

The figure in Annex B.2 sets out the scheme of interaction between those involved in the safety of the rail system.

As of 31 December 2009, the Authority employs 99 staff, while the maximum staffing levels with the Authority fully operational is 300 employees.

PART D – DEVELOPMENT OF RAILWAY SAFETY

D.1 Initiatives to maintain and improve safety performance

Tables D.1.1 and D.1.2 below provide a list of the safety measures arising from an analysis of accidents and incidents and arising from other circumstances respectively.

Table D	.1.1 Safety measure	es arising from anal	lysis of accidents or incidents
Date	Location	Particulars	Safety measures provided for
24/01/09	PM Anagni	Dividing of train 9456	Changes to software of vehicle system for determining the status of the slave rear locomotive ERTMS/SCMT on-board subsystem plate and of the coordinated traction cut-off management system for both locomotives. A programme was started to replace all ETR 500 unit couplings and pressure was applied to complete the programme for replacement of couplings on conventional rolling stock.
22/06/09	Vaiano – Prato c.le	Derailment of train 55399 due to leaf spring failure	 All railway undertakings were asked to: carry out a non-routine check for faults, upgrade maintenance plans to include non- destructive ultrasound testing and specific load tests.
29/06/09	Viareggio	Derailment of train 50325 due to axle failure	 Immediate and more general measures were adopted, namely: identification of axles under conditions similar to those of the axle involved in the accident with any affected wagons taken out of service (18 wagons were taken out of service in total) and only re-entered into service following positive outcome of non-destructive tests; requirement for traceability of axle servicing, otherwise traffic restrictions were imposed; participation in a task-force with ERA to adopt urgent agreed measures and review the various servicing standards in Europe to define a harmonisation plan.
29/8/09	Bologna Central	Exceeding of low signal set for stop	The Authority requested that: • towing manoeuvres carried out on rails that are
1/9/09	Bologna Central	Derailment when shunting empty vehicles	not independent from the rails on which the trains circulate should be equipped with active and efficient dead man's switches or another
20/9/09	Milan Central	Derailment when shunting empty stock of train 20438.	 agent should be present that can halt the train, the circuits governing station systems should be reviewed to limit/reduce interference between shunting movements and trains, transfer of shunting from depots or yards should take place with active driving protection systems the Safety Management Systems should define relations with companies providing shunting services.
6/11/09	Turin Lingotto- Moncalieri	Collision between two work vehicles	Efforts have continued to encourage RFI to adopt training and organisation measures to guarantee the safety of its working sites with regard to train traffic. It has been asked to include work vehicles in automatic train protection outfitting programmes and the adoption of mitigating measures for the circulation of such vehicles.

Table D	.1.1 Safety measure	es arising from ana	lysis of accidents or incidents	
Date	Location	Particulars	Safety measures provided for	
19/12/09	Scala di Giocca Scala di Giocca Impact of train 8921 against large mass at km 31+525 with death of train driver and derailment of rolling stock		 The Authority requested from RFI: a programme to identify and monitor RFI infrastructure points affected by hydrogeological risks, in order to make the railway premises safe, monitoring of the efficacy of measures adopted, increase in monitoring activities in hydrogeological risk areas and their manning adoption of technological devices designed to reduce the risks, inclusion of operations in the annual safety plan. 	
Passenge	ers falling from trains ir	n motion	Trenitalia continued with the crew training and public information campaigns it started in 2008. In 31/12/2009 Trenitalia reported completion of the plan to modify the carriages of all medium and long-distance passenger trains in service by adding technological devices designed to preven unwarranted door opening after closure by the guard (temporary door lock). Circulation of trains with command and control from the driver's cat was prohibited in the absence of a door closed signal on leaving the maintenance plants. If this signal ceases to operate during service, the trair must be halted immediately and the measures established by each undertaking must be implemented (Decree No 5/2009)	
Dangerou	us goods releases		 The following measures were taken to overcome this problem: checks stepped up on processes involved in dangerous goods transport, involvement of railway enterprises by calling on them to adopt specific measures and also include other hazard goods transport entities (sender, permit holder, etc.). 	

Table D.1.1 Safety measures arising from factors other than accidents or incidents					
Description of area of interest	Description of precursor	Safety measure adopted			
Responsibility for safety	Change in institutional framework following legislative decree	Definition and attribution of the various railway traffic safety responsibilities to all operators.			
	162/2007 implementing Directive 2004/49/EC	railways (Authority, infrastructure operators, railway undertakings, independent safety auditors) – Decree 1 / 2009			

Table D.1.1 Safety measures arising from factors other than accidents or incidents						
Description of area of interest	Description of precursor	Safety measure adopted				
Outfitting with SCMT / SSC [Italian train operating control and driving support systems] and circulation of trains unprotected by these systems	Managing incomplete outfitting of trains with train operating protection/support systems	 Non-equipped trains are allowed to remain in service only if: served by rolling stock that are part of appropriate outfitting plans; in service only on regional networks (and accessing stations shared with RFI on dedicated tracks or travelling only on certain RFI line stretches); made up of work vehicles designed to operate as trains. The following speed limits are imposed on the above non-equipped trains: 60 km/h, when negotiating junctions/PCs and double-single track stations; 100 km/h, if they travel with the continuous signal repetition system function inactive (<i>from 13/12/2009</i>) (Directive 1/dir/2009) Decree No 6 /2009 Decree No 12 /2009) 				
Service regulations for trains equipped with SCMT/SSC	 Technological implementations proposed by the infrastructure operator, partly with the aim of managing single-manned operation and concerning: dual outfitting with SCMT and SSC ground subsystems; introduction of SSC+RSC operating modes; introduction of new on- board subsystems that complement the SCMT and SSC and SSC/RS functions; introduction of a new DMI function (touch screen); 	Alignment of regulatory procedures with technological implementations. (Decree No 2 /2009) Decree No 4 /2009 Draft decree Q/2009)				
Service regulations on Milan – Bologna HSL [AV/AC - high speed/high capacity line], equipped with ERTMS / ETCS level 2 and without fixed light signals	Need to reduce inconvenience to passengers and free up the line as soon as possible in the event of on-board subsystem failure, in view of the failure to activate intermediate interconnections with the historical line.	Possibility of driving at a higher speed (150 km/h) than that established for Staff Responsible mode (60 km/h), under certain conditions (including: stretch free of trains; blocking of routes in service posts encountered by the train; reduction of top speed to 60 km/h from the last service post before the HSL exit interconnection). (Decree No 7 /2009)				

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Table D.1.1 Safety measures arising from factors other than accidents or incidents						
Description of area of interest	Description of precursor	Safety measure adopted				
Service regulations on Turin – Milan HSL, equipped with ERTMS / ETCS level 2 and without fixed light signals	Need to carry out pre-service stage in Novara– Milan HSL and subsequently issue regulations for the Turin– Milan stretch, implementing technological and regulatory actions already tested in service on the Milan -Bologna HSL	Issue of regulations for the Turin – Milan HSL, aligning them with those already in force for the Milan – Bologna high speed stretch. (Decree No 8 /2009) Decree No 11 /2009)				
Service regulations on lines equipped with ERTMS / ETCS level 2 without fixed light signals	Construction of evacuation posts in long tunnels (Bologna – Florence HSL); need to harmonise operating regulations for ERTMS/ETCS L2 lines without light signals.	 Management of evacuation posts, introducing the following main measures: procedure for emergency management and traveller evacuation; restriction on spacing of trains between two evaluation posts (a single train in circulation); use of the 'agreed revocation of MA' function and reversing areas to be used for stopping at the evacuation points; use of reversing mode to optimise halting at the evaluation post emergency exits. Harmonisation of line service regulations for ERTMS/ETCS L2 lines without light signals. (Decree No 13 /2009) 				
Staff training	Change in railway safety responsibilities	standardise and update requirements and procedures for Authority recognition of staff delivering the training and sitting on exam boards relating to safety activities regulated by the Authority. Setting up of a register of instructors/examiners recognised by the Authority (Decree No 14 / 2009)				
Inconsistent situations on borders with various European countries with regard to technology, regulations and staff training	Need for short stretches bordering with foreign undertakings not covered by a safety certificate issued in Italy for plant reasons	Activation of contacts with NSAs of bordering countries manage the different situations present at border stretches				
Dangerous goods	Need to increase the safety level of trains carrying dangerous goods	Obligation to operate with train operation protection/support system for trains carrying dangerous goods (in some cases, exceptional temporary exemptions with appropriate mitigation measures have been granted for particular stretches and railway undertakings)				

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Description of area of interest	Description of precursor	Safety measure adopted
Safety management system	Identification during documentary and field audits of cases of non-compliance in processes described and implemented in the Safety	Request to rail undertakings holding a safety certificate to improve certain key processes (particularly risk analysis, management appraisal) and implement the processes described in a compliant manner.
Supervision of safety certificate issue		 The Authority took on staff to ensure that audit activities were more appropriately structured at the various levels: system audit (documentary and field) process/product/service audit
Safety management system	Results of documentary and field audits. Changed institutional framework arising out of legislative decree 162/2007 implementing Directive 49/2004/EC	 Meeting with all rail undertakings holding a safety certificate or in the process of obtaining certification on: new procedures for issuing part A and B certificates, factors for carrying out risk analysis, explanation of guidelines issued for drafting of an annual safety report and preparation of CSIs
Door servicing	Results of field audits on maintenance processes	The Authority called on Trenitalia to improve the servicing process

Table D.1.1 Safety measures arising from factors other than accidents or incidents

D.2 Detailed analysis of the progress of common safety indicators

The table in Annex C.1 sets out the data regarding the *Common Safety Indicators* (CSI) provided for in Directive 2004/49/EC for 2009.

This paragraph analyses only those accidents that took place on the National Railway Infrastructure managed by RFI, reported in Annex C.2.

The following tables D.2.1, D.2.6 and figures D.2.2., D.2.3, D.2.4 and D.2.5 represent the accident trend used to work out the Common Safety Indicators over the period 2005-2009.

The information in the tables is officially submitted by the operators in their annual reports under the terms of Article 13(4) of Legislative Decree No 162 of 10 August 2007.

Table D.2.1 and figure D.2.2. show the trend in the number of accidents during the period 2005-2009, in absolute value and in relation to traffic volume (expressed in billions of train-kilometres).

Table D.2.1 Trend in accidents over the 2005-2009 period														
ACCIDENTS		2005		2006		2007		2008	2009					
	no	n/trkm	no	n/trkm	no	n/trkm	no	n/trkm	no	n/trkm				
Train collisions	5	14.77	4	11.56	4	11.67	2	5.89	3	9.28				
Trains colliding with obstructions	3	8.86	3	8.67	4	11.67	2	5.89	3	9.28				
Collisions between trains	2	5.90	1	2.89	0	0	0	0.00	0	0 0.00				
Train derailments	6	17.72	11	31.80	8	23.34	8	23.58	5	15.47				
Level-crossing accidents	25	73.85	32	92.51	19	55.44	9	26.53	5	15.47				
Accidents to persons caused by rolling stock in motion	90	265.87	76	219.72	83	242.19	79	232.90	74	228.92				
Accidents to rolling stock	4	11.81 4 11		11.56	4	11.67	2	5.89	0	0.00				
Other accidents (*)	4	11.81	5	14.45	3	8.75	3	8.84	8.84 7					
TOTAL	134	395.85	132	381.62	121	353.07	103	303.65	94	290.79				

impact during shunting or between work equipment, release of dangerous goods

Figure D.2.2 Annual trend in number of accidents during the period 2005-2009 (values expressed in billions of trkm)



The 2009 results show a decrease in the number of accidents with regard to individual categories and the overall value. The only exceptions are train collisions, particularly train collisions against obstacles and 'other' accidents (all rail accidents that do not fall into any of the other categories such as derailment or collisions with working equipment or shunting or release of dangerous goods. The latter category only includes data relating to part of the events connected with worksite safety and shunting issues, another part of which comes under the heading of 'accidents to people caused by

rolling stock in motion'). For measures adopted to alleviate problems relating to such accident types, see point D.1 above and in particular the remarks on hydrogeological impairment, shunting and worksite safety.

Figures D.2.3, D.2.4 and D.2.5 plot the trend in the number of people who were injured or died following accidents occurring during the period 2005-2009. Table D.2.6 shows the number of people injured and the number of people who died, classified in accordance with three categories of persons, passengers, staff and other persons, in accordance with EUROSTAT statistics. The 'other persons' category includes level crossing users, unauthorised persons and all other persons not included in other categories.

Each figure plots the annual trend in the aggregate value of persons injured or killed with regard to a single category of persons (passengers in figure D.2.3, railway staff in figure D.2.4 and other persons in figure D.2.5). Graphs relating to overall values and values relating to each individual accident type are also shown (train collision, train derailment, accidents at level crossings, accidents to people caused by rolling stock in motion, fires on rolling stock and others). To make the data in each figure easier to read, types of accidents that have not caused damage to persons (death or severe injury), such as the accidents at level crossings shown in figures D.2.3 and D.2.4 have been removed.



Figure D.2.3 Aggregate trend in fatalities and serious injuries in the 'passenger'category during the period 2005-2009

Figure D.2.4 Aggregate trend in fatalities and serious injuries in the 'staff'category during the period 2005-2009



Figure D.2.5 Aggregate trend in fatalities and serious injuries in the 'passenger'category during the period 2005-2009



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Figure D.2.3 on passengers shows that no derailment or collisions causing death or injury have been recorded since 2005. Since 2006, the overall results coincide exactly with accidents to people caused by rolling stock in motion. Essentially such accidents occur while boarding or alighting from the doors of moving trains. The 2009 values show an increase in relation to the previous year but are in line with the average value for the period in question (15 events in 2009 compared with an average value of 15 for the period 2005-2009). See table D.1.1. for measures adopted to deal with the problem of passengers falling from rolling stock in motion.

Figure D.2.4 on staff (railway staff, including companies) shows that the overall level of accidents is on the increase compared to 2008 but lower than the average value recorded for the period in question (12 events in 2009 compared to an average value for the period 2005-2009 of 12.8). The latest train derailments or fires that are relevant to purposes of the graph occurred in 2005. On the other hand, the consequences attributable to accidents to people caused by rolling stock in motion have fallen compared to 2008, but are in line with the average value for the period under examination (7). The results for 'other' accidents, which are strictly connected to accidents to people caused by rolling stock in motion because the 'staff' category is affected by the same issues (worksite and shunting safety), are higher than in the previous year and the average value for the period under examination. The result for train collisions underwent a spot increase due to the fatal impact of one train against a landslide (which took place at the Giocca terminal on 19 December 2009), which was connected with the problem of hydrogeological impairment. Measures adopted to alleviate risks associated with such problems are shown in table D.1.1. (Events occurring at Bologna Central on 29 August and 1 September, in the Turin Lingotto -Moncalieri stretch on 6 November and Milan Central on 20 September).

Figure D.2.5 gives data relating to the 'other persons' category in Eurostat statistics that, as noted previously, covers results in three categories ('level crossing users', 'unauthorised persons' and 'others') as provided for in the Common Safety Indicators and Directive 149/09/EC. The figure reflects the trend in these data both in aggregate terms and for each individual category. The figure for overall accidents is on the increase compared to 2008 and the average value recorded for the period in question (100 events in 2009 compared to an average value of 86.6 for the period 2005-2009). A similar trend may be noticed for the consequences of train derailments. This increase was caused by the Viareggio accident, which had a crucial impact on 2009 analyses in

terms of deaths and injuries. The victims of this severe accident represent the first cases analysed by the Authority that may be referred to the category of persons classified as 'others' in the Common Safety Indicators under Directive 149/09/EC. The 2009 figures show a further reduction in the consequences of accidents at level crossings (classifiable as 'level crossing users' based on the guidelines laid down in Directive 149/09/EC). On that subject, the project for the suppression of level crossings is going ahead. With regard to the consequences of accidents to people caused by rolling stock in motion (classifiable as 'unauthorised persons' based on the guidelines laid down in 149/09/EC), to the level was lower than in 2008 but also lower than the average value considered. The following table D.2.6 shows details of consequences to persons arising during the period 2006-2009.

	Table D.2.6 Trend of outcomes for persons of accidents over the period 2006-2009																							
	2006										2007													
	Passengers Staff					Other persons Total				Passengers Staff				r	Oth	er	Total							
			0.0	Ţ	e taii		P								,0.0									
	Fatalities	Serious	TOTALS	atalities	Serious	TOTALS	Fatalities	Serious	TOTALS	Fatalities	Serious iniuries	TOTALS	Fatalities	Serious iniuries	TOTALS	Fatalities	Serious iniuries	TOTALS	Fatalities	Serious	TOTALS	Fatalities	Serious	TOTALS
Train collisions	0	0	0	2	0	2	0	0	0	2	0	2	0	0	0	0	1	1	1	0	1	1	1	2
Train derailments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Level-crossing accidents	0	0	0	0	0	0	18	13	31	18	13	31	0	0	0	0	0	0	15	3	18	15	3	18
Accidents to persons caused by rolling stock in motion	5	14	19	6	2	8	38	15	53	49	31	80	5	9	14	2	3	5	43	21	64	50	33	83
Accidents to rolling stock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other accidents (*)	0	0	0	2	2	4	0	0	0	2	2	4	0	0	0	0	1	1	0	0	0	0	1	1
TOTAL	5	14	19	10	4	14	56	28	84	71	46	117	5	9	14	2	5	7	59	24	83	66	38	104
						20	008											2	009					
	Pa	ssena	ers		Staff		Other Dersons Total				I	Passengers Staff					r i	Oth	er ns	Total				
Train collisions	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1
Train derailments	0	0	0	0	0	0	0	0	0	0	0	0	o	0	0	0	0	0	30	13	43	30	13	43
Level-crossing accidents	0	0	0	0	0	0	3	5	8	3	5	8	0	0	0	0	0	0	5	0	5	5	0	5
Accidents to persons caused by rolling stock in motion	4	5	9	5	4	9	47	18	65	56	27	83	5	10	15	4	3	7	36	16	52	45	29	74
Accidents to rolling stock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other accidents (*)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	4
TOTAL	4	5	9	5	4	9	51	23	74	60	32	92	5	10	15	5	7	12	71	29	100	81	46	127
(*) 'Other acciden using working equi	(*) 'Other accidents' includes all accidents not covered by the above categories, such as derailment and collisions while shunting or using working equipment, release of dangerous goods													ng or										

With regard to SPADs (signals passed at danger by trains) the following graph shows the instances that occurred over the period 2000-2009.



An analysis of the graph reveals that fewer events occurred in 2009 than in the previous year and the number was even lower than in 2007 when the minimum value was recorded. The results are in line with a consolidated falling trend in events during the period in question. The result was achieved through efforts by the system as a whole to equip the national railway network and railway traffic on the network with train driving protection systems and also through the attention devoted to staff training.

During 2009 there were again no major accidents resulting from trains improperly passing signals barring the route ahead.

On the basis of analyses carried out on the SPADs problem, these have been divided into two categories, that is to say, those occurring on 'departure from standing start' and 'in course of travel'. SPADs on 'departure from standing start' are chiefly a function of the interrelation between train drivers and staff accompanying the trains. SPADs 'in course of travel', on the other hand, occur on arriving at or passing through stations, and, on the basis of the outcomes of such incidents occurring during the period under review, are the greater cause for concern.

During 2009, the level of both 'in course of travel' and 'departure from standing start' SPADs fell compared to previous years.

During the year, procedures were implemented for the collection of data directly from regional networks interconnected with the infrastructure managed by RFI, through the Ministry of Infrastructure and Transport, which is the authority responsible for monitoring and supervising these networks. Implementation of this procedure enabled the Authority to gather some data not collected by ISTAT (for example: faults, number of level crossings, number of audits, etc.). Methods of gathering data from interconnected railway networks should nevertheless still be considered to be at an

experimental stage.

The definitions of common safety indicators that differ from those laid down in 149/2009/EC and amendments to data supplied as CSIs in previous years are given in annex C.1.

D.3 Outcomes of the recommendations of the Investigation body

The provisions that the Authority adopted after analysing the various incidents are aligned with the recommendations drawn up by the Italian National Investigation Body. See point D.1 for a summary of the main measures adopted.

PART E – IMPORTANT CHANGES IN LEGISLATION AND REGULATION

The main changes to the frame of reference for safety of train movements and railway operation in 2009 are set out in the table in Annex D. This table shows the following for each standard:

- the grounds,
- the title,
- the date of entry into force,
- whether it is new or updated existing legislation,
- a brief description.

The entire legislative framework is available on <u>www.ansf.it</u> in the section 'Rules on safety and interoperability' and on <u>www.rfi.it</u> in the section 'Legislative framework'.

Note the following with regard to national standards:

✓ Law no 99 of 23 July 2009, 'Provisions for the development and the internationalisation of enterprises, and in the field of energy' amending Legislative Decree 188/2003 with the aim of liberalising infrastructural services; a special licence must be held, even to offer passenger railway services originating and ending within Italy, which require access to the national railway infrastructure. This exonerates railway undertakings that provide international passenger transport services and are granted the right to allow passengers to board and alight between national stations situated along the route of the international service, provided that the main purpose of the service is passenger transport between stations located in

different Member States.

- ✓ Decree Law No 135 of 25 September 2009 issued during 2009 (converted, with amendments by Law No 166/2009) on 'Urgent provisions for the implementation of EU obligations', made additional amendments to Legislative Decree No 188/03 with reference to the Regulatory Body. Measures were also adopted for the running of the Authority.
- ✓ Ministerial Decree of 22 December 2009 on 'Requirements relating to the organisation and running of the only national body authorised to carry out accreditation activities in respect of Regulation (EC) No 765/2008', which governs the national accreditation body responsible for assessing the competence of applicant compliance assessment bodies to perform compliance assessment activities.

With regard to national regulatory activity on safety, performed by the Authority, work was completed on the analysis of measures in force concerning railway traffic operating standards issued by the RFI Infrastructure Operator and Ferrovie dello Stato up to 15 June 2008 (Standards, provisions, specifications and regulatory circulars). This reference framework, set out in Annex B to Authority Decree No 1/2009 of 6 April 2009, ensures the existing regulations are fully aligned with the previous framework.

The Authority then started work on reorganising the area and dividing the competences of railways operators under the terms of Article 6(2)(a) of Legislative Decree 162/2007. The aim is to draft a Consolidation Act on railway operating regulations, including the fundamental principles to be defined by the Authority. This reorganisation is currently in progress. In the course of 2009 the following other regulatory activities were performed:

- Issuing of the following decrees amending technical regulations and safety standards in force, after drawing up appropriate draft decrees sent to those involved (RFI, IF, Sector Associations and Trades Unions organisations) for an opinion:
 - No 2/2009 of 24 April 2009 and No 4/2009 of 19 May 2009, on experimental changes to the operating standards of SCMT and SSC systems;
 - no 3/2009 of 18 May 2009, concerning operating standards to be respected if improper occupation of station track circuits is indicated;
 - \circ $\,$ no 5/2009 of 28 May 2009, concerning operating regulations governing

trains with door command and control devices in the driver's cab;

- No 6/2009 of 16 June 2009, concerning operating regulations governing trains not yet protected by SCMT and SSC systems, in accordance with principles laid down in point 3.1 of Directive No 1/dir/2009 of 3 June 2009;
- No 7/2009 of 23 July 2009, concerning experimental standards for the operation of trains on the Milan – Bologna HSL with the subsystem in 'isolated' state;
- No 8/2009 of 8 August 2009, concerning standards for the operation of the Novara – Milan HSL of the Turin – Milan line as well as experimental amendments and supplements to the regulations in force on the HSL in operation between Torno – Novara;
- No 11/2009 of 04 November 2009 concerning standards for the commercial operation of the Turin – Milan AC/AV line equipped with ERTMS/ETCS L2 [European Rail Traffic Management System / European Train Control System] without fixed light signals;
- No 12/2009 of 26 November 2009, on amendments to operating standards for the adoption of further limitations laid down by Directive 1/dir/2009 of 3 June 2009;
- No 13/2009 of 27 November 2009, on amendments to operating standards as a consequence of constructing Evacuation Posts and the adoption of new functions on HSLs equipped with ERTMS/ETCS L2 without fixed light signals;
- No 14/2009 of 10 December 2009, concerning the issue of standards for the accreditation of staff Instructors and Examiners performing safety activities and consequent amendments to the regulations in force;
- issue of Directive No 1/dir/2009 of 3 June 2009 on the operation of trains not yet protected by SCMT and SSC systems after 30 June 2009;
- issue of reference criteria for granting derogations, on the part of the RFI Infrastructure Manager, regarding:
 - visibility of fixed signals
 - installation of advance and starter signals on tall departure indicators positioned ahead of the departure signals,
 - o reduced distance between fixed signals,
 - use of red light above the route blocked warning signals at an unusually reduced distance (double yellow),

- erection of category one signals in stations;
- Drafting of draft decrees on the following subjects and sending them to those involved (RFI, IF, sector associations and trades union organisations) for an opinion:
 - Rationalisation of procedures for preparing and issuing service timetables (departmental circulars);
 - issuing of standards for the accreditation of staff instructors and examiners performing safety activities and consequent amendments to the regulations in force;
 - Removal of extracts from 'Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)' from regulatory texts;
 - amendments to operating standards for running trains unprotected by SCMT or SSC systems;
 - o supplements and amendments to standards governing shunting;
 - o amendments to operating standards concerning train numbering;
 - temporary use of experimental amendments for the operation of trains equipped with SCMT on-board subsystems also designed to perform SSC functions;
- issue to the RFI Infrastructure Operator of authorisations to introduce amendments to the regulations in order to start up operation of installations;
- issue of recommendations to the RFI Infrastructure Operator on ensuring safety at worksites;
- issue of guidelines and recommendations to Railway Undertakings regarding:
 - speeding up the processes of installing train movement protection systems,
 - o improving maintenance procedures,
 - \circ $\;$ alleviation of risks to passengers on boarding and alighting from trains,
 - drafting of agreements for the exchange of goods trains under a technical exchange visit scheme,
 - o drawing up wagon loading plans for freight.

PART F – DEVELOPMENT OF SAFETY CERTIFICATION AND SAFETY AUTHORISATION

F.1 National legislation – Commencement dates – Availability

So far no safety certificates or safety authorisations pursuant to Articles 10 and 11 of Directive 2004/49/EC, transposed by Legislative Decree No 162/2007, have been issued.

For aspects relating to the Safety Certification of Railway Undertakings, during 2009 the Authority worked toward implementation of 'guidelines for the issue of a safety certificate'. These guidelines, subsequently issued on 23 March 2010, provide the information necessary for obtaining part A and part B of the certificate, specifying the requirements to be satisfied and the documentation to be submitted as evidence.

The guidelines also established 30 June 2010 as the final deadline for applications to extend the safety certificate under the old procedures.

In any case, even though the issue of certificates and extensions continued with procedures prior to those contained in Directive 2004/49/EC, during 2009 documentary analysis of railway undertaking safety management systems was carried out in order to begin to guide railway undertakings towards the implementation of systems compliant with requirements for Part A and B of the certification.

With the aim of supporting railway undertakings in the implementation of the new regulation, during June 2009 the Authority met all railway undertakings holding a safety certificate or that had applied to obtain a safety certificate, explaining the main new features of the new regulatory framework and the most sensitive Safety Management System issues emerging from the supervision activity carried out by the Authority. Guidelines for completing the Annual Safety Report to be compiled by all railway operators and sent each year to the Authority were also explained on this occasion.

With regard to the Safety Authorisation to be issued to infrastructure operators, the Authority assumed powers to act as the RFI national infrastructure operator as of 1 January 2010. As a consequence of taking over these powers, Authority Directive 1/dir/2010 issued on 22 February 2010 defines all the formalities to be carried out by the RFI prior to the issue of Safety Authorisation FI.

Application of the decree to other networks in Italy is postponed by three years under the terms of Article 27 of Legislative Decree No 162 of 10 August 2007. Procedures for applying the decree to other networks, transferring Authority powers to these networks and defining guidelines for the issue of safety authorisations to infrastructure operators
are still being developed.

F.2 Quantitative and qualitative data on the Italian rail system

The position regarding the issue of Safety Certificates to the Railway Undertakings up to 31 December 2009 is set out below.

By that date there were 33 Railway Undertakings certificated on the national rail infrastructure.

In the course of 2009 the following were issued:

- 8 new Safety Certificates:
 - No 18/2009 issued on 22 January 2009 to InRail SpA;
 - No 20/2009 issued on 18 March 2009 to Nuovo Trasporto Viaggiatori SpA;
 - No 21/2009 issued on 18 March 3009 to Rail Italia srl;
 - No 22/2009 issued on 22 June 2009 to Compagnia Ferroviaria Italiana srl;
 - No 28/2009 issued on 26 August 2009 to Arenaways srl;
 - No 31/2009 issued on 08 October 2009 to General Transoprt Service SpA,
 - No 38/2009 issued on 10 December 2009 to Ferrovie della Calabria srl;
 - No 44/2009 issued on 29 December 2009 to Interport Servizi Cargo SpA;
- 19 extensions.

In the course of 2009 the following Safety Certificates were revoked:

- Metronapoli SpA on 22 January 2009 for passenger services;
- Azienda Consorziale Trasporti di Reggio Emilia on 14 May 2009 for freight services;
- A.T.C. Trasporti Pubblici Bologna SpA on 28 May 2009 for passenger services

In order to build up a general picture of the Railway Undertakings' position vis-à-vis safety certification, Annex E sets out the following information:

- undertakings holding a licence;
- undertakings that have applied for a safety certificate;
- undertakings that have applied to extend their safety certificates.

F.3 Procedural aspects

In 2009 the certificates and extensions were issued according to the existing procedures, hence without the division into parts (a) and (b). Safety authorisations were not issued. Consequently this paragraph has not been completed.

PART G – SUPERVISION OF THE INFRASTRUCTURE OPERATOR AND RAILWAY UNDERTAKINGS

G.1 Description of the activities of supervising the railway undertakings and the infrastructure operator

The Authority performed its activities of supervising the railway undertakings and the national infrastructure operator by:

- monitoring and analysing accident data;
- performing targeted checks on accidents considered most significant from the viewpoint of safety with the aim of promptly acquiring all information necessary to identify the cause of the event and thus adopt regulatory and technical measures to help avoid the repetition of such events;
- audits on the RFI and Railway Undertaking Safety Management System, both on documentation (assessment of compliance with compulsory requirements) and in the field (assessment of compliance of management processes implemented);
- inspection activities on the operability of Railway Undertakings and RFI (assessment of compliance of operating processes implemented);
- evaluation and analysis of annual reports sent by the RFI and Railway Undertakingsanalysis of the results of all the Authority's activities vis-à-vis the RFI and the Railway Undertakings.

As stated previously, in 2009 safety certificates were issued in accordance with procedures laid down in 49/2004/CA. In other words, Part A and Part B safety certificates and safety authorisations were not issued. Consequently, this Chapter does not mention claims from the Infrastructure Operators against Railway Undertakings regarding the conditions in parts A and B of the Certificate. Similarly, no claims were reported from Railway Undertakings against Infrastructure Managers concerning the authorisation conditions.

G.1.1 Monitoring and analysis of accident data;

Accidents, incidents, the causes that gave rise to them and the associated consequences are monitored daily through information sent to the Authority by the infrastructure operator and the railway undertakings or downloadable from databases pursuant to Article 5(3) of National Railway Safety Director's Decree No 1 of 2009.

In particular, by monitoring the RFI Safety Database containing all accidents and incidents occurring on the railway infrastructure managed by RFI, the Authority audits the trend in accidents, incidents and their consequences, comparing them with previous periods in order to examine the effect and highlight any rising accident trends or establish event hotspots within the same time period or location.

On the basis of the information collected to date, within a time period that was greatly influenced by the Viareggio accident, the trend in significant accidents occurring on the network managed by RFI is falling compared to previous years, as explained under points B.3 and D.2.

One phenomenon that rose steadily during 2009, though it did not cause any particular damage, was dangerous goods releases; in fact, there was an increase in dangerous goods releases (essentially minor escapes of substances due to loading problems or tanker defects) reported in 2009 over those recorded in the annual safety report for 2008.

The trend in the improper release of dangerous goods during the period 2005-2009 is shown in the following graph.



Trend in accidents and incidents involved in the carriage of dangerous goods associated with loading problems or container structural defects. (period 1995--2009)

There is therefore a need to reinforce the system for the control of the processes involved in the carriage of dangerous goods (internal procedures, supplier audits, etc.).

Railway enterprises were contacted to deal with the identified problem, calling on them to adopt specific measures to combat the phenomenon in question and also to involve other parties concerned with the transport of dangerous goods (sender, permit holder, etc.), including their foreign partners.

Given the recurrence of such events, in certain specific cases involving carriages originating outside Italy and therefore outside its jurisdiction, the Authority found it necessary to make the corresponding National Safety Authority aware of the problem so that precautions should could be taken.

G.1.2 Investigations by the National Railway Safety Authority

On the basis of information in its possession on events arising, the National Railway Safety Authority decides whether to gather further information from the railway operators involved or to carry out its own investigations to acquire data in good time, for the purpose of identifying the causes of what has taken place, in order to adopt any immediate rules or technical measures that might contribute to avoiding a repetition of such events.

In all cases, the Authority has access to investigations carried out by the infrastructure operator and railway undertakings once they have been concluded in order to acquire additional assessment input useful for institutional purposes.

The investigations pursued in 2009 are set out in the following table.

No	Date	Location	Particulars						
1	03/01/2009	Florence Castello	Train 37903 derailment						
2	24/01/2009	PM Anagni	Division of train 9456						
4	30/01/2009	Chiavenna	SPAD of train 4970						
5	04/02/2009	Bicocca	Train 79017 derailment						
6	11/02/2009	Porto d'Ascoli	Improper opening of LC km 5+506 for train 7061						
7	28/02/2009	Rome Tiburtina	Person run down on departure of train 774						
8	03/03/2009	Omignano – Vallo della Lucania	Passenger thrown from train 1925 in transit						
9	05/03/2009	Naples Central	Train driver injured on departure of train 1925						
10	12/03/2009	Lecco	SPAD of train 10591						
11	13/03/2009	Vallo della Lucania	SPAD of train 51319						
12	14/03/2009	Rocca di Fondi	ALn [light diesel locomotive] fire in train set 7090						
13	19/03/2009	Lecce	Passenger fall on departure of train 9766						
14	26/03/2009	Crotone	Passenger fall on departure of train 3728						
15	07/05/2009	Bolzano	Collision between shunting Trenitalia stock and train 5431 SAD stock						
16	11/05/2009	Asti	Passenger fall from train IC 502 in motion						
17	12/05/2009	Venice Santa Lucia	Departure of train ES 9728 with cleared signal and points falsely positioned						
18	19/05/2009	Sesto Calende	Train 61511 derailment						
19	25/05/2009	Borgo San Dalmazzo	Train 50398 derailment						
20	26/05/2009	Livorno Calambrone	Incoming train 53113 routed on occupied track						
21	06/06/2009	Pisa San Rossore	Train 55161 derailment						
22	21/06/2009	Pisa c.le – Pisa aerop.	Train 23447 derailment						
23	22/06/2009	Vaiano – Prato c.le	Train 55399 derailment						
24	29/06/2009	Viareggio	Train 50325 derailment						
25	09/07/2009	Ortanova-Cerignola	Collision between train 12483 and stock on the railway premises with damage to car 50832639254-7.						
26	22/07/2009	Orvieto	Collision between train 1931 and the open door of a container within train 57034						
27	22/07/2009	Fabriano	Injury of a passenger on board train ES 9325 due to ceiling panel detachment						
28	22/07/2009	Busto Arsizio	Collision between train 51103 and door of train 40028						
29	25/0720/09	Nocera T. – Gizzeria.	Collision between train 3694 and load protruding from a wagon within train 57375						
30	28/07/2009	Mandela	Train 24074 derailment						

No	Date	Location	Particulars						
31	28/07/2009	Vaiano	Wagon 31835320307 4 in train 91225 travelling with axle box out of place						
32	24/08/2009	Cervignano Smistamento	Gas leak from a tanker wagon making up train 83373						
33	24/08/2009	Turin P.N.	Two passengers injured in an attempt to board train 537 while in motion						
34	29/08/2009	Bologna Central	Exceeding low signal set for stop						
35	01/09/2009	Bologna Central	Derailment when shunting empty vehicles						
36	15/09/2009	Chiusi	Train IC 703 derailment						
37	15/09/2009	Tivoli	Fall of passenger from train 2372 (injured)						
38	18/09/2009	Cogoledo	Release of dangerous goods from wagon making up train 54493						
39	20/09/2009	Milano c.le.	Derailment when shunting empty stock of train 20438						
40	24/09/2009	Bologna s. Donato	Gas leak from a tanker wagon making up train 65336						
41	02/10/2009	Chiasso	Incorrect overriding of 2 ground signals set to stop						
42	05/10/2009	Chiavari- S.Margherita.	Outbreak of fire in train 56370 in Zoagli						
43	07/10/2009	Grumo – Appula	Failure to stop for passenger service and improper reversing of train 22415						
44	09/10/2009	Maddaloni Marcianise	Train 57599 derailment						
45	11/10/2009	Rome Sm.to	Dangerous goods release from train 59044						
46	18/10/2009	Pordenone	Fatal injury to a passenger on train 236						
47	22/10/2009	Ventimiglia parco Roja	23/1965 gas leak from tanker no 3387791588-9, arriving with Fret Italia train 48403 SNCF						
48	22/10/2009	Lecce	Incorrect routing of train 12518						
49	22/10/2009	Lecce	SPAD of Ferrovie Sud Est train AT 207						
50	27/10/2009	Ravenna	Gas leak from a tanker making up train 55342						
51	28/10/2009	Ventimiglia	Release of dangerous goods from wagon making up train 48403						
52	03/11/2009	Besozzo	Outbreak of fire in train engine E655 – 542 of train 41005						
53	05/11/2009	Florence Rifredi	Fatal collision with RFI officer						
54	06/11/2009	Turin Lingotto- Moncalieri	Collision between two work wagons with severe injury						
55	11/11/2009	Ventimiglia parco Roja	dangerous goods release from train 48363						
56	11/11/2009	Brennero	Dangerous goods release from train 43129						
57	12/11/2009	Fornovo	Derailment of train 54200 at points 9 on entry to platform 5 with cleared signal						
58	16/11/2009	Adria – Piove di Sacco	Dangerous collision between train 26696 and train 5797 on a line managed by Sistemi Territoriale						
59	20/11/2009	Palermo Central	Derailment of train 22738 with protection signal set to 'clear'						
60	25/11/2009	S.Severo	Improper overriding of stop signal by train ES 9760						
61	25/11/2009	Campoleone	Passengers injured following detachment of bearing cover from a car of train IC 585						
62	27/11/2009	Spresiano – Treviso c.le	Release of dangerous goods from tanker wagon making up train 48125						
63	28/11/2009	Pontecagnano	Accident to passenger alighting from train 25454 in motion after operating emergency opening handle						
64	30/11/2009	Voghera	Derailment of train 71819 entering platform 10 of goods terminal						

No	Date	Location	Particulars
65	02/12/2009	La spezia Migliarina/scalo	Loss of dangerous goods load from tanker no 31834556452-6 making up train 51127
66	03/12/2009	Genova Bolzaneto	Derailment of train 84258
67	03/12/2009	Rolo Novi Fabbrico - Carpi	Improper opening of LC km 17+986 on passing of train 5543
68	03/12/2009	Badesse	SPAD protecting signal by train 23467
69	03/12/2009	Gallarate	SPAD during shunting of train 25717
70	04/12/2009	Turin P.N.	Collision when shunting stock of train 9799
71	07/12/2009	Sannicandro- Acquaviva	Failure to notify slowing of train 9767
72	09/12/2009	Parma	Route of train 6757 incompatible with train 48163
73	14/12/2009	Savigliano	Escape of SBB Cargo rolling stock and collision with Trenitalia train 4405
74	17/12/2009	Cervignano Smistamento	Gas leak from a tanker making up train 53588
75	19/12/2009	Cassino – Piedimonte	Fatal running down of IS technician by train 1940
76	22/12/2009	Grosseto	Outbreak of tanker fire in train set 56370
77	28/12/2009	Lucca	Collision with car on LC km 1+395 by train 3093 following improper routing instruction by Movements Manager

The observations emerging from the checks carried out by the Authority are sent to the relevant railway operators to support the relevant assessments and to request the adoption of measures that the Authority deems appropriate. The Authority asks railway operators involved to include information on measures adopted following incidents occurring in their Annual Safety Reports.

The main issues tackled during 2009 were connected with the disaster that took place in Viareggio, passengers falling from trains in motion and release of dangerous goods from tanker wagons. In respect of the accident in Viareggio, the Authority immediately organised an extra checking campaign on axles similar to the one that failed and the obligation to track the maintenance of all axles. While awaiting the completion of this tracking, the Authority ordered the adoption of mitigating measures on the speed limit (60 km/h) for trains carrying dangerous goods when passing through stations. For passengers falling from trains in motion, the Authority ordered railway undertakings to upgrade their carriages from a technical viewpoint. While awaiting completion of this upgrading (which took place in December 2009), the Authority requested the adoption of mitigating measures that may be summarised as information to passengers and an increase in on-board train crew.

Due to an increase in the number of incidents connected with the transport of

dangerous goods (essentially minor escapes of substances due to loading problems or tank defects), the Authority identified a need to adopt a system for the control of the processes involved in the carriage of dangerous goods (internal procedures, supplier audits etc.). Railway enterprises were contacted to deal with the identified problem, calling on them to adopt specific measures to combat the phenomenon in question and also to involve other parties concerned with the transport of dangerous goods (sender, permit holder, etc.), including their foreign partners.

Further details of the measures adopted following the activity carried out are given in paragraphs D.1 and D.3.

G.2 Annual safety reports by the infrastructure operator and the railway undertakings

With the aim of harmonising the data and information that the Railway Undertakings and the Infrastructure Operator are required to provide, as well as ensuring that uniform criteria are applied to the measurement and assessment of safety management systems, the Authority drew up, and on 17 June 2009 issued, the Guidelines on compiling annual safety reports. By virtue of these Guidelines the Authority – in addition to the matters set out in Article 13(d) of Legislative Decree No 162/2007 – introduced various items of specific concern to itself. With a view to facilitating the preparation of the report and the calculation of indicators, the Authority has added a requirement to compile certain specific tables.

Following an analysis of the 2008 annual reports, certain points emerged as requiring clarification. Other elements were also identified that were considered to be of interest to the Authority. As a consequence, on 19 May 2010, a review of the 'Guidelines for drawing up an annual safety report' was issued, whereby:

- regulatory references were updated;
- the need to prepare an annual report made up not only of tables but also of a descriptive account was emphasised;
- A new table was prepared that railway undertakings and infrastructure operators must use to communicate data on train traffic that relate to them in their capacity as railway undertakings or train track licence holders;
- The concept of safety management system indicators was introduced as a suitable tool for measuring the achievement of internal safety targets;
- further instructions were given for drawing up tables and for drawing up the

descriptive part of the report on national safety indicators;

- A new table was introduced on event precursors and clarification was given that for reports on years after 2009, each railway undertaking must report data relating to traffic for which it has effectively guaranteed traction;
- an audit definition was given, aspects to be included in the descriptive part of the report on the results of internal audits were further detailed and the need to give an assessment of the efficacy of the activity was emphasised;
- certain amendments were made to avoid duplication with data requested in other parts of the Report;
- The data that railway undertakings and the infrastructure operator must communicate to the Authority were detailed or explicitly, including information relating to the application of Common Safety Methods and measures adopted following accidents.

Railway operators were asked to prepare an annual report on 2009 in accordance with this revision of the guidelines.

Most of the operators submitted their reports by the required deadline (30 June) while in some cases the information arrived late, as may be seen from the following table.

Railway operators	Railway operators who	Railway operators who	Railway operators		
	submitted their reports	submitted their reports	who did not send in a		
	by 30 June	after 30 June	report		
33	23	8	2		

One of the two operators that did not submit an annual report was a railway undertaking that was taken over by another certified undertaking in January 2010. The latter was unable to provide information on 2009 for the undertaking it had taken over. The other case concerned a railway undertaking that did not believe it had to send any information to the Authority because it obtained its certificate on 29 December 2009.

Examination of the documents submitted by RFI and the Railway Undertakings has revealed the following.

Data on the procedures for achieving internal safety targets and results obtained from the safety plans

The Railway Undertakings and RFI were asked to describe, in an appropriate section of the Annual Report dealing with achievement of the targets and the results of the Safety Plans, the process of safety planning, and to tabulate a list of activities and projects implemented in 2009, correlating these with the areas of critical concern that they were intended to affect, both those identified by the issuing organisation on the basis of their own analyses, and those of the railway system, formulated by the Infrastructure Operator for the 2009 safety plans.

For each critical area, the safety indicators taken as reference for its identification and measurement were required to be stated, together with the starting value of the indicators, the quantitative objectives for improving the critical area and metrics for demonstrating the efficacy of the planned action in achieving those objectives.

Also to be provided for each activity or project were a final statement of the stage reached in implementation as at 31 December 2009 and particulars of the reasons for any deviation from plan.

Analysis of the information received has revealed that the projects have generally adhered to the critical areas defined for the year 2009 by the Infrastructure Operator. Only in a few cases have the organisations submitting the safety plans defined critical areas for themselves.

With regard to the indicators used to identify and measure critical areas, although in many cases they adequately define the process involved, in other cases more general and less effective parameters were employed.

Such cases resulted in less precise definition of measurable improvement targets and consequent difficulty in verifying the extent to which those targets have been achieved, as well as in evaluating the effectiveness of the actions and the efficiency of the resources deployed.

Coverage of the aspects fundamental to safety within individual plans, and statements of the implementation status of projects and activities planned in 2009 and the reasons for any deviation from plan, were, by and large, provided in accordance with the guidelines issued.

National safety indicators and Common Safety Indicators (CSI)

The safety indicators introduced by Provision No 13/2001 of the Infrastructure Operator were adopted as the national safety indicators required under Article 13(4)(b) of Legislative Decree 162/07, which make up the minimum set of indicators for internal use in the safety management systems.

With the guidelines for drafting the Annual Report on safety, the Infrastructure Operator and the Railway Undertakings, by producing these indicators, were requested to provide an overview of safety performance trends, enabling the result achieved in the year in question to be assessed by comparison against parallel previous periods or, alternatively, against a predetermined reference value.

All in all, it can be said that the national safety indicators have not thrown up any problems beyond those identified from the other instruments for supervising the activities of the Railway Undertakings and the Infrastructure Operator.

In some cases, the method of calculating the indicators was not explained, although this was a specific requirement of the Authority guidelines when drawing up the annual tables. This made it difficult to analyse and compare values, particularly those relating to sampling.

The results revealed the following picture:

- Although the indicators supplied by most railway undertakings were to some extent uneven and incomplete, they show that the safety performance levels must be improved in the following respects:
 - Number of 'slight' typical accidents;
 - Compliance of traction rolling stock;
 - Compliance of crew behaviour;
 - Taillight adjustments;
- > Some indicators have improved compared to the previous year:
 - Measurement of limited top speed exceeded;
 - Number of locomotive assistance requests.

With regard to the collection of data necessary to construct common safety indicators, not all operators correctly reported data on hours worked and hours lost following accidents as well as costs sustained due to accidents.

Results of internal safety audits

As required by the procedures of the Safety Management System, the Infrastructure Operator and Railway Undertakings carried out internal audits on operational and organisational aspects affecting the safety of operations.

In some cases, the accounts given by the Reports were highly summarised, providing few details of non-compliances identified. The number on non-compliances seemed to be very small, sometimes limited to aspects that were not matters of traffic safety.

It would therefore appear that these internal audits need to be improved in terms of resources involved and efficacy.

Remarks on deficiencies in and malfunctioning of railway operations and infrastructure management

In many cases the operators were not very proactive on this point because not many reported findings of any importance.

The most significant observations focused attention on the following aspects:

- accidents caused by passengers falling from moving trains or off platforms;
- accidents due to closing doors too late;
- improving the traceability of servicing operations;
- staff conduct and training;
- level-crossing faults
- acts of vandalism

Operators reporting these critical areas went on to indicate the consequent corrective actions identified and planned as part of their safety plans in addition to any special measures adopted.

From analysing the data communicated, it is evident that some operators have identified instances of non-compliance in detail, while others have confined themselves to giving an overall indication without going into a detailed analysis.

It may generally be observed that the tool providing most information is the *internal audit*: only in a limited number of cases were results obtained from monitoring safety indicators and from the use of other possible tools.

G.3 Inspections carried out in 2009

The Authority set up a structure dedicated exclusively to inspection activities. During the period October–December 2009, this activity focused in particular on the shunting process and aspects of rolling stock checking and maintenance carried out in freight terminals, stations, workshops and combined traffic terminals. The activity carried out is described in detail in the two tables below.

INSPECTION ACTIVITIES ON ROLLING STOCK									
RAILWAY U	NDERTAKING	LOCATION	DATE						
		Trecate (train 49636)	17/11/2009						
SDD Cargo I	lalla	Brescia terminal (train 61117)	09/12/2009						
Rail Traction Company		S. Zeno Folzano (trains 48882 and 48842)	09/12/2009						
		Trecate (yard)	17/11/2009						
	Freight	S. Zeno Folzano (train 51332)	09/12/2009						
		Genoa Campasso (train 54650)	14/12/2009						
Trenitalia	National / international passengers	Pescara Central (train 9786)	02/12/2009						
		Pescara Central (train 12026 and 12022)	02/12/2009						
	Regional	Cagliari (train 12914)	09/12/2009						
	Passengers	Cagliari (train 12916)	11/12/2009						
		Genoa Brignole (trains 2166, 21112, 1895, 26517, 11251, 2188)	15/12/2009						

INSPECTION ACTIVITIES ON SHUNTING OPERATIONS								
SHUNTING O	TING OPERATORLOCATIONDATEBologna S.Donato15/10/2009Marcianise28/10/2009Rome shunting yard05/11/2009Piacenza11/11/2009Modena11/11/2009Ravenna12/11/2009Alessandria shunting yard24/11/2009Novara Boschetto25/11/2009Ferrara13/10/2009Operational control28/10/2009Revensional control25/11/2009Ravensional control25/11/2009Revensional control25/11/2009							
		Bologna S.Donato	15/10/2009					
		Marcianise	28/10/2009					
RFI Infrastructure operator		Rome shunting yard	05/11/2009					
		Piacenza	11/11/2009					
REI Infrastruct	ure operator	Modena	11/11/2009					
		Ravenna	12/11/2009					
		Alessandria shunting yard	24/11/2009					
		Novara Boschetto	25/11/2009					
		Ferrara	13/10/2009					
	Freight	Genoa Sampierdarena	20/10/2009					
	Freight	Sestri Levante	22/10/2009					
Trenitalia		Battipaglia	27/10/2009					
Undertaking		Bologna Central	14/10/2009					
	Regional	Genoa Brignole	22/10/2009					
	Passengers	Salerno	27/10/2009					
		Rome Tiburtina	05/11/2009					
		Milan Porta Garibaldi	18/11/2009					
		Alessandria	24/11/2009					
		Ventimiglia	21/10/2009					
	National /	Naples Central	29/10/2009					
	international	Rome Termini / Parco Prenestino	04/11/2009					
	passengers	Milan Central	19/11/2009					
		Turin shunting yard	26/11/2009					
GTS Railway u	undertaking	Piacenza	11/11/2009					

The inspection activity is carried out with the aid of checklists completed by the Authority staff who carry out the activity.

The main cases of non-compliance emerging from checks on shunting systems were as follows:

• failure to use tone signalling system during reversing movements carried out

with radio phones,

- failure to sign to indicate inspection of service logs,
- delivery log not completed/incorrectly completed,
- no staff refresher courses,
- failure to use/incorrect use of scotch blocks to mobilise parked rolling stock,
- Incorrect procedure for carrying out shunting movements,
- failure to allocate staff to instructors for skills training.

The main cases of non-compliance emerging from checks on rolling stock were as follows:

- flatbed wagons with bent stanchions,
- worn draw hooks,
- carriages with exit doors out of service or faulty,
- fault repairs in workshop postponed,
- incorrect housing of brake pipe,
- buffing gear not lubricated,
- rim thickness less than 35 mm.

The findings emerging during inspection activities are immediately communicated to the relevant operator and, particularly in the case of findings concerning rolling stock, may lead to the vehicle/train being taken out of service until the non-compliance can be rectified.

G.4 Audits conducted in 2009

Field audits were carried out in accordance with the '2009 audit plan' policy paper, which laid down topics for further examination based on the findings from thorough accident analysis, the outcome of previous audit activities, an assessment of various Authority sectors and the conclusions of technical panels.

With regard to audits of Safety Management System documents, during 2009 assessments were carried out with the aim of issuing new safety certificates and extending existing safety certificates. Visits were made to the premises of undertakings.

During 2009, 53 audits were accomplished in all, as follows:

- 2 at central bodies of the infrastructure operator;
- 5 at peripheral bodies of the infrastructure operator;
- 3 at central bodies of the undertaking Trenitalia;

- 14 at peripheral bodies of the undertaking Trenitalia, concerning in particular the maintenance of exit doors and the maintenance of stock used on the HC/HC lines following the opening up of the new Milan-Bologna line to railway service;
- 29 on other Railway Undertakings.
 - o 15 within their executive and operational headquarters,
 - o 14 on the safety management system documentation held by the Authority;

Details of the audit bodies are given below:

	RFI INFRASTRUCTURE MANAGER AUDIT										
1	Divisional Movements departments – Verona	June 2009									
2	Activation of Milan – Bologna HSL line	June 2009									
3	Central Directorates – Carriage of dangerous goods – Rome	August 2009									
4	Bologna plants – Activation of Mi-Bo HS-HC stretch – Bologna	November 2009									
	AUDIT OF TRENITALIA RAILWAY UNDERTAKING										
5	Central Directorates – Carriage of dangerous goods – Rome July 2009	JULY 2009									
	NATIONAL / INTERNATIONAL PASSENGER DIVISION	ИС									
6	IMC [Current Maintenance Plant] ETR [high-speed electric train] 500 HSL – Milan	April 2009									
7	IMC ETR 500 HSL – Naples	April 2009									
8	IMC Carriages – Exit door maintenance – Turin	July 2009									
	REGIONAL PASSENGER DIVISION										
9	Liguria Regional Directorate – Exit door maintenance – Genoa	September 2009									
	WORKSHOPS										
10	Cima Rolling Stock Workshop (Trenitalia) – Bozzolo (MN) 2009	July 2009									
	AUDIT OF OTHER RAILWAY UNDERTAKINGS										
11	Cross Rail – Domodossola	January 2009									
12	SAD – Bolzano	February 2009									
13	Hupac – Busto Arsizio	May 2009									
14	Ferrovie Udine Cividale – Udine	October 2009									
15	Veolia Cargo Italia – Genoa	October 2009									
16	SBB Cargo Italia – Milan	November 2009									
AU	AUDIT OF SAFETY MANAGEMENT SYSTEM DOCUMENTATION (OTHER RAILWAY UNDERTAKINGS)										
17	SNCF Fret Italia	June 2009									
18	Crossrail	March 2009									
19	Ferrovie della Calabria	June 2009									
20	Arenaways	June 2009									

21	Inrail January 2009								
22	Rail Italia	February 2009							
23	GTS	January 2009							
24	SERFER	March 2009							
25	CFI	February 2009							
26	ISC	November 2009							
27	Linea	November 2009							
28	Ferrotramviaria	May 2009							
29	Ferrovie Udine Cividale	May 2009							
30	Nuovo Trasporto Viaggiatori	February 2009							
	FOLLOW-UP OF RFI INFRASTRUCTURE MANAGI	ER							
31	Infractive Divisional Departments - Elevence	January 2009							
32	Infrastructure Divisional Departments – Florence	May 2009							
33	Movements Divisional Departments – Turin	January 2009							
34	Central Departments (SIGS) – Rome	November 2009							
	FOLLOW-UP OF TRENITALIA RAILWAY UNDERTA	KING							
35	National/International and Regional Passenger Division – exit door maintenance	May 2009							
1	NATIONAL / INTERNATIONAL PASSENGER DIVISION – National / international ongoing maintenance								
36	IMC Carriages, Milan (doors)	February 2009							
37	IMC Carriages, Bari (doors)	March 2009							
38	IMC Carriages, Palermo (doors)	March 2009							
39	Venice Mestre IMC Carriages – exit door maintenance	March 2009							
40	IMC ETR 500 Milan	October 2009							
41	IMC ETR 500, Naples	October 2009							
	REGIONAL PASSENGER DIVISION								
42	PUGLIA Regional Directorate – Exit door maintenance	March 2009							
43	CAMPANIA Regional Directorate – Exit door maintenance	March 2009							
44	SICILY Regional Directorate – Exit door maintenance	March 2009							
45	TUSCANY Regional Directorate – Exit door maintenance	March 2009							
46	Veneto Regional Directorate – Exit door maintenance	April 2009							
	OTHER RAILWAY UNDERTAKINGS FOLLOWED	JP							
47		February 2009							
48	Rall Traction Company – Verona	July 2009							
49	SBB Cargo Italia	May 2009							
50	Ferrovia Adriatica Sangritana – Lanciano	June 2009							
51	Linea – Pozzolo F.ro (AL)	September 2009							
52	Metrocampania Nord Est – Naples	September 2009							
53	SNCF Fret Italia – Avigliana (To) July 2009								

Findings after following up were not always positive. In those instances it became necessary for those in charge of the organisations audited to take on additional duties and take further action to resolve ongoing difficulties.

195 new cases of non-compliance emerged during the course of audit activities in 2009. Of the 262 cases of non-compliance identified at audits carried out previously, follow-up activities during 2009 revealed that 171 had been resolved (65% of total cases of non-compliance).

The main critical issues emerging are described below. Critical issues concerning the infrastructure operator are as follows:

- lack of traceability of all stages of the process of commissioning new plant and regulatory development;
- lack of qualification of expert external staff involved in technical checking activity or safety assessments in tunnels
- lack of correlation between risk analysis and definition of safety plans;
- incomplete technical documentation for the activation of new plant;
- incomplete adoption of maintenance measures following notification;
- incomplete evidence of adopting corrective measures following accidental events;

The main critical issues for railway undertakings concerned the following processes:

- management appraisal;
- risk analysis and assessment;
- planning of transport safety, particularly the carriage of dangerous goods;
- compliance with rolling stock servicing deadlines;
- management of suppliers and service supplies;
- internal audit activities;
- checking of measuring instruments.

Findings emerging from an analysis of the documentation making up the Safety Management System led in some cases to failure to issue a safety certificate or a request to update the certificate because the system did not provide a guarantee of safe management of operations. In some cases, new safety certificates were issued or existing certificates were extended on the condition that any aspects emerging as not fully compliant with regulatory requirements in force would be improved.

G.5 Authority follow-ups of aspects identified during supervision activities

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An analysis of aspects emerging during supervision activities on operators carried out during 2009 led to the identification of the following critical areas:

- Safety management systems:
 - 1. adoption of procedures for 'Planning and appraisal of safety through safety analysis and assessment';
 - relevance of projects contained in the Safety Plans to quantitative targets and their traceable connection with risk analyses carried out in conformity with rules in force;
 - adoption of training and skills maintenance programmes for staff responsible for safety duties (with particular reference to workshop staff loaned from other plants and contract operators);
 - 4. outsourcing of activities associated with operating safety;
 - constant and effective checking of maintenance operating procedures conducted by relevant bodies for the purposes of safety, including outsourced activities;
 - safety at active worksites, especially where rail traffic is present;
 - interference with railway safety from instances of hydrogeological disturbance;
- correct implementation of processes for starting up new plant and modifying existing plant;
- crossing of railway premises at level crossings and at critical points for improper crossings;
- traceability and validity of the approval of rolling stock in service;
- observance of time periods laid down, monitoring of deadlines and traceability of rolling stock maintenance procedures;
- system for control of the processes involved in the carriage of dangerous goods (internal procedures, supplier audits etc.);
- active management of processes related to changes in the regulatory framework;
- division of passenger trains and other aspects relating to keeping rolling stock running efficiently.

Railway undertakings and the infrastructure operator were asked to draw up their own safety plans, including implementation of actions and projects to address these critical areas and also identify further specific goals for their activities and critical areas requiring corrective measures through risk analysis.

PART H – REPORT ON THE APPLICATION OF COMMON SAFETY METHODS TO RISK IDENTIFICATION AND ASSESSMENT

During 2009, the railway undertaking Trenitalia applied European Regulation 352/2009 on a voluntary basis to evaluate changes associated with extending the railway undertaking's safety certificate to three new HSL network stretches and their interconnections with the conventional network.

The railway undertaking drew up official procedures for applying the regulation in a procedure entitled 'Risk analysis and assessment for railway operation', which is part of the undertaking's safety management system.

The procedure includes the following the assessment stages governed by the regulation:

- assessment of the impact of the change and its relevance to operating safety;
- identification of dangerous situations and their management and recording;
- demonstration of system compliance with safety requirements in accordance with one or more of the following criteria:
 - o application of codes of good practice,
 - o comparison with similar systems,
 - thorough risk assessment;
- evaluation of the procedure by an independent body.

The main aspects emerging from the application of the regulation are described below.

Evaluating the impact and significance of the change

Three different corporate committees were given the task of evaluating the organisational, technological and operational impacts of changes introduced, in accordance with their respective competencies and in accordance with a pre-defined decision-making approach. Extending the safety certificate was considered to have an impact on safety due to technological aspects concerned with 'On-board equipment for the safety of train driving' and due to operational aspects on one of the three new stretches, associated with the preparation of procedures, the process of acquiring and maintaining skills and the execution of activities.

A committee made up of system safety and operational safety managers, in addition to operational experts, then assessed the relevance of changes identified. They concluded that the only changes that could be considered relevant were those relating to operational aspects resulting from the introduction of a new concept known as an 'evacuation point', which necessitated the adoption of new management procedures and new interfaces with staff responsible for traffic management.

Identification of hazardous situations and their management and recording

The operational change introduced was analysed by means of the corporate methods set out in the procedure and this led to the identification of a set of associated. Mitigating measures considered appropriate to contain the risk within acceptable limits were identified for each of these hazards.

Demonstration of system compliance with safety requirements

The undertaking submitted a demonstration of system compliance with safety requirements within which the mitigation measures identified were considered appropriate to contain the risk within acceptable limits due to their compliance with codes of good practice.

In the RFI annual report for 2009, the national infrastructure operator confirmed the following with regard to the application of Common Safety Methods within the different areas of application:

- the development or substantial modification of electronic safety systems and products for railway signalling have undergone structured risk analysis as laid down in the rules on interoperable innovative electronic systems, such as the ground-based ERTMS/ETCS subsystem in use on the high-capacity / highspeed Bologna to Milan line.
- the new tunnels that have entered service have undergone structured risk analysis in the instances and in the manner provided for Ministerial Decree of 28 October 2005. These analyses have been developed by a qualified entity external to the RFI and validated by the Ministerial Board on the Safety of Tunnels. In particular, the specifications of RFI tunnels for which the Decree requires a Risk Analysis are as follows:
 - tunnels between 1 000 and 9 000 metres in length that do not meet minimum requirements mentioned in Annex II to the decree and are not characterized by the following parameters:
 - length not exceeding 2 km,
 - traffic volume not exceeding 220 trains per day,
 - type of traffic such that passenger trains and trains carrying dangerous goods are not present in the tunnel simultaneously,
 - course free of inversions of gradient,
 - absence of specific area risks at the approaches to the tunnel mouths;
 - o tunnels more than 9 000 metres long,
 - tunnels in which either the presence simultaneously of trains carrying dangerous goods and passenger trains or else specific area risks at the approaches to the tunnel mouths cannot be excluded,
 - \circ in all cases where it cannot be demonstrated that the measures applied are

adequate.

Within the safety management system, a study is being conducted on the process of analysing discrepancies between the regulatory provisions in force and the provisions of Regulation 352/2009, which allows for the possibility of using codes of practice or similar systems of reference with due justification, and the systematic roll-out of all substantial modifications connected with safety in all the technical areas, as well as at operational, procedural and organisational levels.

PART I – CONCLUSIONS, PRIORITIES AND SAFETY RECOMMENDATIONS

2009 was marked by the railway disaster that took place in Viareggio. Following this, it became necessary to adopt various measures to prevent such an accident happening again.

Findings to date reveal that the accident causes were not specific to safety management features of the Italian railway system but could have arisen in other contexts within the integrated European railway system.

This led the Authority to lobby for the adoption of mitigation measures harmonised at European level. Such measures include the need to guarantee the 'traceability' of servicing processes, with particular regard to axles. In this case, traceability means having access to information on construction standards adopted, the date of manufacture, the manufacturer, servicing activities and the entity responsible for maintenance, with additional checks being required for any rolling stock without a traceable service record.

The set-up of an ERA task-force to investigate the Viareggio accident led to the measures identified being shared at international level.

2009 saw the completion of modifications to carriages designed for passenger transport by the addition of technological devices to prevent improper door opening once the doors had been closed by the guard (Timed Door Lock). This measure was adopted to alleviate risks associated with train passengers mounting and alighting from trains. During the audit activities carried out by the Authority, it was nevertheless found that in many cases carriages operate with several faulty doors. The Authority therefore called for a review of the Safety Management System organisations operated by the railway undertakings concerned.

The increase in minor releases of dangerous substances identified in 2008 continued to rise in 2009. In addition to involving railway operators, the Authority considered it necessary to adopt measures aimed at reinforcing controls on carriage loading and acceptance checks at the border. This latter aspect also required the involvement of the National Authorities of neighbouring countries.

During 2009, the Authority did not limit its activities to the reactive stage of safeguarding railway safety, in other words simply redressing the causes or alleviating the consequences of events that had already taken place, even though it expended considerable efforts in such actions.

Its broader activities included reorganising the institutional framework, amended by Legislative Decree No 162 of 10 August 2007, clarifying roles and responsibilities within the railway system.

It also continued its activity of supervising railway safety by means of analysis and control instruments designed to identify potential risks present in the railway system. This confirmed the need to continue with actions to address problems reported during previous years, pursuing the following main objectives:

- to reduce technical and structural inconsistency both within the railway system itself and at its interface with the world outside it;
- to reduce non-compliances ascribable to human factors;
- to reduce non-compliances ascribable to inadequacies in maintaining the infrastructure and rolling stock.

In its role as the institutional sponsor of railway safety, the Authority sought to achieve these objectives by continuing its actions to identify critical aspects and by calling on railway operators to adopt appropriate measures while also opening up various channels for the qualification and training of staff within the railway operators' organisations who are crucial to safe management of the system.

During supervision activities on the work of operators, a need emerged to improve certain key safety management processes. This led to changes being made to Safety Management Systems and implementation of the processes described.

In 2009 special attention was again devoted to completing the installation of the technology to protect train movements. The Authority also required that trains carrying dangerous goods should always be fitted with on-board movement protection subsystems compatible with the ground subsystems fitted to the lines they travel on. At the same time, solutions are being examined that will make it possible to extend the application of movement protection systems to work equipment and shunting

locomotives and also to introduce new features to existing systems.

While the Authority waits to assume responsibility for the safety of regional networks interconnected with the national network, the need for regional networks to be equipped with train movement protection systems must be highlighted. Indeed, Legislative Decree No 162/2007 deferred the date when the Authority assumes responsibility for regional networks for three years to allow time for the standardisation of rules on operation and on the level of technology and safety between the regional networks and the national network managed by RFI.

Annex A: Information on the railway infrastructure

Annex A.1:	Extent of the national rail infrastructure

Annex A.2: Information on the Infrastructure Operator and Railway Undertakings

Annex A.1: Extent of the national rail infrastructure



Key to map: rete in servizio = network in service

Network in service	
RETE FERROVIARIA ITALIANA [Italian Railway Network]	
STATE RAILWAYS GROUP	
NETWORK MARKETING AND OPERATIONS DEPARTMENT	
OPERATIONAL ENGINEERING AND INFRASTRUCTURE	
Operational Design and Territorial Systems	

Annex A.2: Information on the Infrastructure Manager and Railway Undertakings



	Infrastructure manager													
Name	Address	Web site	Safety authorisation	Date trading commenced	Total network length (km)	Length of electrified lines/electrical voltage		Line length		Total length of high speed lines (km)	ATP equipment		Number of level	Number of
						Electrical voltage	km	Double- track	Single- track		Туре	km		9
RFI S.p.A.	Piazza della Croce Rossa, 1 00167 Rome	De o	Deed of concession Ministerial Decree No 138-T of 31 Oct 2000	31/10/2000	16 685	3 000	11 297		9 192	1 355	SCMT (*)	11 442	5 754 4	44 431
								14 986			SSC (*)	4 824		
						25 000	590				ERTMS	644		

(*) 413 kilometres of line are equipped with SCMT and SSC [Italian train movements control and command and control systems]



Railway Undertakings														
		Web site				Service type		e type	Number of				Passenger	O a a da walkuma
Name	Address		Safety C 2001/14/EC (da	ertificate (number and te)	Date trading commenced	passengers	spoob	RID	(Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	volume (train- kilometres) (total – services received)	(train-km) (total – services received)
TRENITALIA S.p.A.	Piazza della Croce Rossa, ¹ 00161 Rome	www.trenitalia.com	129/2008	13/06/2008	30/05/2000 1	V	å	√ all classes	4 529	30 319	8 053	30 517	264 556 000	35 937 000
LeNORD s.r.l.	P.le Cadorna, 14 20123 Milan (MI)	www.lenord.it	35/2009	01/12/2009	01/01/2004	V	å	√ Classe s 1 and 7	177	20	216	678	758 334	0

¹ Railway undertaking set up by State Railways



	Railway Undertakings													
Name	Address	Web site	Safety Certificate 2001/14/EC (number and date)		Date trading commenced	passengers	spoob	e type	Number of units (Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	Passenger volume (train- kilometres) (total – services received)	Goods volume (train-km) (total – services received)
Rail Traction Company S.p.A.	Via Brennero, 7 39100 Bolzano (BZ)	www.rltraction.it	41/2009	29/12/2009	16/10/2001	V	å	√ class 7	90	0	0	134	0	2 296 067
Torinese Trasporti S.p.A. Group	Corso Turati 19/6 10128 Turin (TO)	www.comune.torino.it	83/2006	05/06/2006	27/07/2001	V			36	0	0	116	349 000	0
SERFER – Servizi Ferroviari S.r.l.	Via Rolla, 22/R 16152 Genoa (GE)	www.serferonline.com	117/2007	21/12/2007	06/06/2003	V	\checkmark	√ (Classe s 1 and 7)	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	450	28 601	837 825



	Railway Undertakings													
Name	Address	Web site	Safety Certificate 2001/14/EC (number and date)		Date trading commenced	passengers "	spoob	e type	Number of units (Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	Passenger volume (train- kilometres) (total – services received)	Goods volume (train-km) (total – services received)
HUPAC S.p.A.	Via Dogana 8 21052 Busto Arsizio (VA)	<u>www.hupac.it</u>	115/2007	21/12/2007	Data not supplied by IF	V	\checkmark	√ class 7	3	0	0	62	0	18 614
Ferrovie Emilia Romagna s.r.l.	Via S. Donato, 25 40127 Bologna (BO)	<u>www.fer-online.it</u>	32/2009	20/11/2009	01/01/01	V	\checkmark	√ class 7	132	0	12	502	1 700 000	0
Trasporto Ferroviario Toscano S.p.A.	Via G. Monaco, 37 52100 Arezzo (AR)	www.trasportoferroviari otoscano.it	112/2007	22/11/2007	01/07/2004	V	\checkmark	√ class 7	6	0	0	67	0	68 930
NORDCARGO s.r.l.	P.le Cadorna, 14 20123 Milan (MI)	www.nordcargo.it	34/2009	01/12/2009	30/07/2003		•√	√ class 7	46	0	0	147	0	1 430 269



Railway Undertakings														
			Safety Certificate 2001/14/EC (number and date)			s	Servi	ce type	Number of			Number of	Passenger volume (train-	Goods volume
Name	Address	Web site			Date trading commenced	passengers	goods	RD	(Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	staff performing safety tasks	kilometres) (total – services received)	(total – services received)
Ferrovia Adriatico Sangritana S.p.A.	Via Dalmazia, 9 Lanciano (CH)	<u>www.sangritana.it</u>	09/2008	09/10/2008	04/02/2004	\checkmark	V		32	0	0	80	661 270	209 796
Sistemi Territoriali S.p.A.	P.zza G.zanellato, 5 – 35131 Padua	Data not supplied	126/2008	06/06/2008	08/2003	\checkmark	\checkmark	√ Classes 1 and 7	13+3	0	3	124	994 000	111 000
SBB Cargo Italia s.r.l.	Via Damiano Chiesa, 2 21013 Gallarate (VA)	<u>www.sbbcargo.co</u> <u>m</u>	42/2009	29/12/2009	14/12/2003		å	√ class 7	44	0	0	330	0	1 652 580
METRO CAMPANIA NORDEST	Via Don Bosco ex scalo merci 80141 Naples (NA)	www.mcne.it	45/2004	30/11/2004	2005	•√			45	0	0	80	393 815	0
Ferrovia Centrale Umbra s.r.l.	P.le Bellocci, 16/A Perugia (PG)	www.fcu.it	120/2008	09/04/2008	December 2002	•√			60	0	0	140	923 144	0



	Railway Undertakings													
		Web site	Safety Certificate 2001/14/EC (number and date)			Service type			Number of				Passenger	
Name	Address				Date trading commenced	passengers	goods	RID	(Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	volume (train- kilometres) (total – services received)	(train-km) (total – services received)
Rail One S.p.A.	Viale Abruzzo, 410 66013 Chieti (CH)	Data not supplied by IF	125/2008	06/06/2008	2nd half of 2006		å	√ Classes 1,7 and 9	10	0	0	9	0	0
CAPTRAIN Italia Srl ex SNCF Fret Italia S.r.I.	Via Tuffetti 104 Milan 20124 Milan (MI)	<u>www.caprtrain.it</u>	23/2009	25/06/2009	08/02/2006		å	√ class 7	52	0	0	77	0	284 333
SAD – Trasporto Locale S.p.A.	Corso Italia 13/N 39100 Bolzano (BZ)	<u>www.sad.it</u>	36/2009	10/12/2009	05/05/2005	å			20	0	0	86	1 057 332	0
Ferrovie Udine Cividale S.r.l.	Via Peschiera, 30 33100 Udine (UD)	www.ferrovieudin ecividale.it	10/2008	30/10/2008	08/07/2008		•√		Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF
Linea Ferroviaria S.p.A.	Via Tadini 2 28100 Novara	www.lineaferroviar ia.it	43/2009	29/12/2009	01/08/2007		å	√ class 7	14	0	0	92	0	385 292



Railway Undertakings														
Name	Address	Web site	Safety Certificate 2001/14/EC (number and date)		Date trading commenced	Service type bassengers Bassenger		Ce type	Number of units (Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	Passenger volume (train- kilometres) (total – services received)	Goods volume (train-km) (total – services received)
Ferrotramviaria S.p.A.	P.zza A.Moro 50/B 70122 BARI	<u>www.ferrovieno</u> rdbarese.it	114/2007	14/12/2007	18/06/2009		å	√ Classes 1 and 7	0	0	0	12	63 098	0
Ferrovie del Gargano S.r.l.	Via Zappetta, 7/D 70121 Bari (BA)	<u>www.ferroviedelgarga</u> no.com	11/2008	30/10/2008	31/10/2008	•√			18	0	0	43	264 940	0
Crossrail Italia S.r.l.	Scalo Ferroviario Domo 2 28851 Beura Cardezza (VB)	www.crossorail.it	25/2009	25/06/2009	09/04/2008		•√	√ classe s 1 and 7	7	0	0	41	0	209 909
Veolia Cargo Italia	P.zza della Vittoria, 15 16121 Genoa (GE)	<u>www.veolia-</u> cargo.it	33/2009	01/12/2009	13/12/2008		•√	√ Class 7	3	0	0	28	0	105 000
CFI-Compagnia Ferroviaria Italiana SpA	Largo Elia Rossi Passavanti, 13 (05100) Terni	www.compagni aferroviariaitali ana.it	39/2009	29/12/2009	18/08/2009		•√		2	34	0	23	0	120 000



Railway Undertakings														
						Service type			Number of				Passenger	Goode volume
Name Ac	Address	Web site	Safety C 2001/14/EC (da	Safety Certificate 2001/14/EC (number and date)		passengers	goods	RID	(Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	volume (train- kilometres) (total – services received)	(train-km) (total – services received)
In Rail SpA	Corso Perrone 28a/R, 16152 - Genoa	<u>www.inrali.it</u>	29/2009	22/09/2009	09/02/2009		å	√ Classes 1 and 7	4	0	0	17	0	87 862
Nuovo Trasporto Viaggiatori SpA	Via del policlinico 149/b 00161 Rome	<u>www.ntvspa.it</u>	40/2009	29/12/2009	Planned for September 2011	•√			0	0	0	25	2 469	0
GTS Spa	Via del tesoro 15 70123	www.gtsrail.com	37/2009	10/12/2009	January 2010				6	0	0	29	0	0
Ferrovie della Calabria	Via Milan 28 88100 Catanzaro	www.ferroviedellac alabria.it	38/2009	10/12/2009	Planned for 2nd half of 2010	\checkmark	\checkmark		2	0	1	3	0	0
Arenaways	Via Gramsci 59 a 15121 Alessandria	www.arenaways.com	28/2009	26/08/2009	Not yet started	•√			2	0	0	2	0	0


	Railway Undertakings													
						s	ervio	e type	Number of				Passenger	Goods volume
Name	Address	Web site	Safety Certificate 2001/14/EC (number and date)		Date trading commenced	passengers	passengers goods RID	units (Locomotives, Railcars, Multiple units)	Number of wagons	Number of carriages	Number of staff performing safety tasks	volume (train- kilometres) (total – services received)	(train-km) (total – services received)	
Rail Italia	Via Orti 17 Milan	Not supplied	21/2009	18/03/2009	24/11/2009	\checkmark	\checkmark		6	0	0	21	0	0
Interport Servizi Cargo	Interport di Nola 80035 Nola (NA)	<u>www.isc.it</u>	44/2009	29/12/2009	2010		•√	√ Classes 1 and 7	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF
DB SCHENKER RAIL ITALIA S.r.I.	Via Umberto Giordano, 35 15121 Alessandria (AL)	<u>www.rail.dbschenke</u> . <u>it</u>	81/2006	23/03/2006	12/12/2004		•√	√ Class 7	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	Data not supplied by IF	0	522 561



Annex B: Organisation of the Italian rail system

- Annex B.1: Organisation of the National Railway Safety Authority
- Annex B.2: Structure of the Italian rail system



Annex B.1: Organisation of the National Railway Safety Authority



Organisation of the National Railway Safety Authority





Annex B.2: Structure of the Italian rail system



Italian National Rail System





Annex C: Data on the Common Safety Indicators

- Annex C.1: Common Safety Indicators under Directive 2004/49/EC
- Annex C.2: List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC 2009



Annex C.1: Common Safety Indicators under Directive 2004/49/EC

Annex C.1 Common Safety Indicators under Directive 2004/49/EC

The CSI data provided in the years 2006 and 2008 concerning broken axles and broken wheels must be modified as follows:

	2006	2008
Broken axle	2	2
Broken wheel	2	0

The 2006 data has been changed due to a reclassification of the incidents/accidents that occurred in previous years. The 2008 data has been changed because the numbers include events that occurred on rolling stock running on railways connected to the network managed by RFI.

For the first time, a survey was introduced in 2009 in order to directly acquire the data from the railways connected to the infrastructure managed by RFI. The activity is still being tested.

However, it has been preferred to use data collected from ISTAT for the accidents, casualties and traffic volumes.

It is not possible to furnish detailed data on level crossings in order to complete the fields of the CSI 2010 data form. Consequently the whole number has been furnished (see the data in field 257 T03). In 2009, the percentage of level crossings with automatic protection is 73.45%.

Data concerning broken rails and track buckles are not comparable with the previous years because RFI refined the calculation methods.

		Guidelines for data transmission and file for	rmats ver.2010	
number	Data	Description of data	Data format	Example of data
0.0	code			
0. Rep	orting co		the two letter IOO as the should be used (IOO 0400	1
01	CC	Reporting country	the two-letter ISO code should be used (ISO 3166	
			for which the abbreviations EL and UK are	
			recommended	
				IT
02	YY	Reporting year	8	2009
1.1a. T	otal num	ber of accidents and a break-down into the following types of accidents		
1	N00	Total Number of all accident	Numeric value	119
2	N01	Number of Collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	7
3	N02	Number of Derailments of trains	Numeric value	6
4	N03	Number of Level-crossing accidents, including accidents involving pedestrians at level-	Numeric value	7
		crossings		
5	N04	Number of Accidents to persons caused by rolling stock in motion, with the exception of	Numeric value	83
6	NOF	Suicides	Numerie velue	
6	NU5	Number of Fires in folling stock		9
/	N06	Number of Other accidents	Numeric value	/
1.2a. T	otal num	ber of suicides	I	T
15	N07	Number of events: suicide	Numeric value	111
1.3a. T	otal num	ber of accidents involving the transport of dangerous goods divided into the following ca	ategories	Т
17	N18	Total number of accidents involving at least one railway vehicle transporting dangerous goods	Numeric value	2
18	N19	Number of accidents involving at least one railway vehicle transporting dangerous goods in	Numeric value	1
10	Noo	which dangerous goods are NOT released		
19	N20	Number of accidents involving at least one railway vehicle transporting dangerous goods in which dangerous goods ARE released	Numeric value	1
		Which dangelous goods / KE foldadd		
2 1 a T	otal num	ther of Persons seriously injured by type of accident divided into the following categories	2	
2.14.1	TEOO	Tetel number in ell accidente	Numerie velue	71
23	TS00	Total number in all accidents	Numeric value	19
24	TS01			10
25	1502			13
26	1503	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
27	1504	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	36
28	1 S05	In fires in rolling stock	Numeric value	0
29	TS06	In others	Numeric value	4
2.2a. T	otal num	ber of Passengers seriously injured by type of accident divided into the following catego	pries	Т
37	PS00	Total number in all accidents	Numeric value	35
38	PS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	18
39	PS02	In derailments of trains	Numeric value	0
40	PS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
41	PS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	17
42	PS05	In fires in rolling stock	Numeric value	0
43	PS06	In others	Numeric value	0
2.3a. T	otal num	ber of Employees including the staff of contractors seriously injured by type of accident	divided into the following categories	
65	SS00	Total number in all accidents	Numeric value	7
66	SS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
67	SS02	In derailments of trains	Numeric value	0
68	SS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
69	SS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	3
70	SS05	In fires in rolling stock	Numeric value	0
71	SS06	In others	Numeric value	4
2.4a. T	otal num	ber of Level-crossing users seriously injured by type of accident divided into the followin	ng categories	•
79	LS00	Total number in all accidents	Numeric value	0
80	LS01	In collisions of trains, including collisions with obstacles within the clearance dauge	Numeric value	0
81	LS02	In derailments of trains	Numeric value	0
82	LS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
83	LS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	0
8/	1.505	In fires in rolling stock	Numeric value	0
85	1.506	In others	Numeric value	0
2.52 T	otal num	ber of Unauthorised persons seriously injured by type of accident divided into the follow	ving categories	
02	11900	Total number in all accidents	Numeric value	16
0/	11901	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
0F	11902	In derailments of trains	Numeric value	
90	11802	In origination of trains		0
90	0503	In reversionship accounts, mouting accounts involving pedestrians at level-crossings		0
97	0504	In accidents to persons caused by rolling stock in motion, with the exception of suicides		10
98	0505			0
99	0506			0
2.6a. T	otal num	ber or other persons seriously injured by type of accident divided into the following cate	egories	T :-
107	OS00	I otal number in all accidents	Numeric value	13
108	OS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
109	OS02	In derailments of trains	Numeric value	13
110	OS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0

		Quidelines for data transmission and file f		
	1	Guidelines for data transmission and file for	ormats ver.2010	1
number	Data code	Description of data	Data format	Example of data
111	OS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	0
112	OS05	In fires in rolling stock	Numeric value	0
113	OS06	In others	Numeric value	0
				·
3.1a. T	otal nun	ber of Persons killed by type of accident divided into the following categories		
121	TK00	Total number in all accidents	Numeric value	81
122	TK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	1
123	TK02	In derailments of trains	Numeric value	30
124	TK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	5
125	TK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	45
126	TK05	In fires in rolling stock	Numeric value	0
127	TK06	In others	Numeric value	0
3.2a. T	otal nun	ber of Passengers killed by type of accident divided into the following categories	·	•
135	PK00	Total number in all accidents	Numeric value	5
136	PK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
137	PK02	In derailments of trains	Numeric value	0
138	PK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
139	PK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	5
140	PK05	In fires in rolling stock	Numeric value	0
141	PK06	In others	Numeric value	0
3.3a. T	otal nun	nber of Employees including the staff of contractors killed by type of accident divided in	to the following categories	
163	SK00	Total number in all accidents	Numeric value	5
164	SK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	1
165	SK02	In derailments of trains	Numeric value	0
166	SK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
167	SK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	4
168	SK05	In fires in rolling stock	Numeric value	0
169	SK06	In others	Numeric value	0

numb er	Data code	Description of data	Data format	Example of data
3.4a. T	otal num	ber of Level-crossing users killed by type of accident divided into the following categori	es	
177	LK00	Total number in all accidents	Numeric value	5
178	LK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
179	LK02	In derailments of trains	Numeric value	0
180	LK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	5
181	LK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	0
182	LK05	In fires in rolling stock	Numeric value	0
183	LK06	In others	Numeric value	0
3.5a. T	otal num	ber of Unauthorised persons killed by type of accident divided into the following catego	ries	
191	UK00	Total number in all accidents	Numeric value	36
192	UK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
193	UK02	In derailments of trains	Numeric value	0
194	UK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0
195	UK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	36
196	UK05	In fires in rolling stock	Numeric value	0
197	UK06	In others	Numeric value	0
3.6a. T	otal num	ber of Other persons killed by type of accident divided into the following categories		
205			Numeric value	30
205	OK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0
200	OK02	In densitions of trains	Numeric value	30
207	0K02	In detailments of trains	Numeric value	30
200	OK03	In rever-crossing accidents, including accidents involving pedestrians at rever-crossings	Numeric value	0
209	OK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	0
210	OKUS	In mes in rolling stock	Numeric value	0
211	0K06	In others	Numeric value	U
4.1a. I	otal num	ber of events relating to precursors of accidents and a break-down into the following typ		
219	100	I otal number of precursors	Numeric value	1101
220	101	I otal number of broken rails	Numeric value	404
221	102	I otal number of track buckles	Numeric value	677
222	103	Total number of wrong-side signalling failures	Numeric value	0
223	104	I otal number of signals passed at danger	Numeric value	15
224	105	Total number of broken wheels on rolling stock in service	Numeric value	1
225	106	Total number of broken axles on rolling stock in service	Numeric value	4
5.1a. Ir	ndicators	to calculate the economic impact of accidents	1	n
233	C00	Economic impact of ALL accidents	Numeric value in €	-
234	C10	Economic impact of significant accidents ONLY	Numeric value in €	127238708
235	C01	Economic impact of fatalities	Numeric value in €	114361378
236	C02	Economic impact of serious injuries	Numeric value in €	12877330
As a re	sult of AL	L accidents		
237	C03			
238		Cost of material damages to rolling stock or infrastructure (all accidents)	Numeric value in €	"_"
239	C07	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents)	Numeric value in €	"_"
	C07 C04	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents	Numeric value in € Numeric value in € Numeric value in €	"_" "_" 0
240	C07 C04 C05	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents)	Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes)	"_" "_" 0 "_"
240 241	C07 C04 C05 C06	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents)	Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes)	"_" "_" O "_"
240 241 As a re	C07 C04 C05 C06 esult of sig	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) pinificant accidents ONLY	Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes)	"_" "_" 0 "_"
240 241 As a re 242	C07 C04 C05 C06 esult of sig	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) milicant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents)	Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes)	"." "." "." "."
240 241 As a re 242 243	C07 C04 C05 C06 esult of sig C13 C17	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) milicant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents)	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in €	"." "." "." "."
240 241 As a re 242 243 244	C07 C04 C05 C06 esult of sig C13 C17 C14	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) milicant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents	Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in € Numeric value in €	"." 0 "." "." "."
240 241 As a re 242 243 244 245	C07 C04 C05 C06 esult of sig C13 C17 C14 C15	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) milicant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents)	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes)	"_" 0 "_" "_" "_" "_" 0 "_"
240 241 As a re 242 243 244 245 246	C07 C04 C05 C06 esult of sig C13 C17 C14 C15 C16	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents)	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes)	"." "." 0 "." "." "." 0 "." 0 "."
240 241 As a re 242 243 244 245 246 6.1a. Ir	C07 C04 C05 C06 esult of sig C13 C17 C14 C15 C16 dicators	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) relating to technical safety of infrastructure and its implementation	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes)	"." 0 "." "." "." 0 "."
240 241 As a re 242 243 244 245 246 6.1a. Ir 255	C07 C04 C05 C06 esult of sig C13 C17 C14 C15 C16 dicators T01	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) Minutes of delays of freight trains (all accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Cost of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents Minutes of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Percentage of tracks with Automatic Train Protection (ATP) in operation	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67)	"_" 0 "_" "_" "_" 0 "_" 0 "_" 0 "_" 92,37%
240 241 As a re 242 243 244 245 246 6.1a. lr 255 256	C07 C04 C05 C06 esult of sig C13 C17 C14 C15 C16 dicators T01 T02	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of preight trains (all accidents) Minutes of delays of freight trains (all accidents) Minutes of delays of freight trains (all accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) Percentage of tracks with Automatic Train Protection (ATP) in operation Percentage of train kilometres using operational ATP systems	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%)	"_" 0 "_" "_" "_" 0 "_" 0 "_" "_" 92,37% 78,80%
240 241 As a re 242 243 244 245 246 6.1a. Ir 255 256 257	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 odicators T01 T02 T03	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of preight trains (all accidents) mificant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) Minutes of telays of freight trains (significant accidents) Percentage of tracks with Automatic Train Protection (ATP) in operation Percentage of traink ikilometres using operational ATP systems Total number of level crossings (active and passive)	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%)	"." 0 "." "." 0 "." 0 "." 92,37% 78,80% 7585
240 241 As a re 242 243 244 245 246 6.1a. lr 255 256 257 258	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 odicators T01 T02 T03 T06	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of preight trains (all accidents) Minutes of delays of freight trains (all accidents) mificant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) relating to technical safety of infrastructure and its implementation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value (%) Numeric value (%) Numeric value (%)	"." "." 0 "." "." "." 0 "." 0 "." 92,37% 78,80% 7585 "."
240 241 As a re 242 243 244 245 246 6.1a. lr 255 256 257 258 259	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 dicators T01 T02 T03 T06 T07	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of preight trains (all accidents) mificant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) Minutes of delays of freight trains (significant accidents) Pretating to technical safety of infrastructure and its implementation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings with automatic user-side warning	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value	"." 0 "." "." "." 0 "." 0 "." "." 92,37% 78,80% 7585 "." "."
240 241 As a re 242 243 244 245 246 6.1a. li 255 256 257 258 259 260	C07 C04 C05 C06 esult of sig C13 C17 C14 C15 C16 Odicators T01 T02 T03 T06 T07 T08	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) milicant accidents ONLY Cost of damage to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of preight trains (significant accidents) relating to technical safety of infrastructure and its implementation Percentage of tracks with Automatic Train Protection (ATP) in operation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings with automatic user-side warning with automatic user-side protection	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value (%) Numeric value	"." "." 0 "." "." "." 0 "." "." 92,37% 78,80% 7585 " "."
240 241 As a re 242 243 244 245 246 6.1a. li 255 256 257 258 259 260 261	C07 C04 C05 C06 esult of sig C13 C17 C14 C15 C16 dicators T01 T02 T03 T06 T07 T08 T09	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) milicant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents Cost of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of preight trains (significant accidents) relating to technical safety of infrastructure and its implementation Percentage of tracks with Automatic Train Protection (ATP) in operation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings with automatic user-side protection with automatic user-side protection with automatic user-side protection and warning	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value (%) Numeric value	"." "." 0 "." "." "." 0 "." 0 " 0 " "." 92,37% 78,80% 7585 " "." "."
240 241 As a re 242 243 244 245 246 6.1a. lt 255 256 257 258 259 260 261 262	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 Odicators T01 T02 T03 T06 T07 T08 T09 T09 T10	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) mificant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Cost of delays as a consequence of significant accidents Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) Telating to technical safety of infrastructure and its implementation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of level crossings with automatic user-side protection and warning with automatic user-side protection and warning	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value Numeric value (%) Numeric value	"." 0 "." "." "." 0 "." 0 "." 0 "." 0 "." 92,37% 78,80% 7585 "." "." "."
240 241 As a re 242 243 244 245 246 6.1a. lt 255 256 257 258 259 260 261 262 263	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 dicators T01 T02 T03 T06 T07 T08 T09 T10 T11	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) mificant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) Minutes of delays of freight trains (significant accidents) Percentage of tracks with Automatic Train Protection (ATP) in operation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings with automatic user-side protection with automatic user-side protection with automatic user-side protection and warning with automatic user-side protection and warning with automatic user-side warning	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value	"." 0 "." "." "." 0 "." 0 "." 0 "." 92,37% 78,80% 7585 "." "." "." "."
240 241 As a re 242 243 244 6.1a. lr 255 256 257 258 259 260 261 260 261 262 263 264	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 C16 C16 C16 C16 C16 C16 T01 T02 T03 T06 T07 T08 T09 T10 T11 T12	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of freight trains (all accidents) miticant accidents ONLY Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of freight trains (significant accidents) Minutes of delays of freight trains (significant accidents) relating to technical safety of infrastructure and its implementation Percentage of tracks with Automatic Train Protection (ATP) in operation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings with automatic user-side warning with automatic user-side protection with automatic user-side protection and warning with automatic user-side protection and warning with automatic user-side protection and warning, and rail-side protection with manual user-side protection	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value	"." 0 "." "." "." 0 "." "." 0 "." 0 "." 0 "." "."
240 241 As a re 242 243 244 245 246 246 255 256 257 258 259 260 261 262 263 263 263	C07 C04 C05 C06 sult of sig C13 C17 C14 C15 C16 C16 C16 C16 C16 T01 T02 T03 T06 T07 T08 T09 T10 T11 T11 T12 T13	Cost of material damages to rolling stock or infrastructure (all accidents) Cost of damage to the environment (all accidents) Cost of delays as a consequence of all accidents Minutes of delays of passenger trains (all accidents) Minutes of delays of preight trains (all accidents) Minutes of delays of freight trains (all accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of material damages to rolling stock or infrastructure (significant accidents) Cost of delays as a consequence of significant accidents) Cost of damage to the environment (significant accidents) Cost of delays as a consequence of significant accidents) Cost of delays of passenger trains (significant accidents) Cost of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) Minutes of delays of passenger trains (significant accidents) relating to technical safety of infrastructure and its implementation Percentage of train kilometres using operational ATP systems Total number of level crossings (active and passive) Total number of active level crossings with automatic user-side protection with automatic user-side protection and warning with automatic user-side protection and warning with automatic user-side protection and warning with manual user-side protection with manual user-side protection	Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value in € Numeric value in € Numeric value in € Numeric value in € Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (minutes) Numeric value (%) (67% = 0.67) Numeric value (%) Numeric value (%) Numeric value	"." "." 0 "." "." 0 "." 0 "." 0 "." 0 "." 92,37% 78,80% 7585 "." "." "." "." "." "." "." "."
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numb er	Data code	Description of data	Data format	Example of data			
7. Indie	7. Indicators relating to the management of safety						
287	AO1	Total number of accomplished audits	Numeric value	2431			
288	AO2	Percentage of audits accomplished /required (and/or planned).	Numeric value (%)	84.97ù			
8. Refe	8. Reference data traffic and infrastructure						
289	R01	Total number of Train km	Numeric value (in million Train*km)	350.549			
290	R02	Number of Passenger km	Numeric value (in million Passenger*km)	46425,694			
291	R05	Number of Passenger train km	Numeric value (in million Train*km)	"_"			
292	R06	Number of Freight train km	Numeric value (in million Train*km)	"_"			
293	R07	Number of Freight tonne km	Numeric value (in million tonne*km)	"*_"			
294	R08	Number of line kilometres (double track lines are to be counted ONCE)	Numeric value (in km)	19742.000			
295	R03	Number of track kilometres (double track lines are to be counted TWICE)	Numeric value (in km)	26174.000			

	Guidelines for data transmission and file formats ver.2010				
number	Data code	Description of data	Data format	Example of data	
0. Rep	orting co	untry details		1	
01	CC	Reporting country	the two-letter ISO code should be used (ISO 3166 alpha-2), except for Greece and the United Kingdom, for which the abbreviations EL and UK are recommended	IT	
02	YY	Reporting year	Format: YYYY, four digits number	2009	
1.1a. T	otal num	ber of accidents and a break-down into the following types of accidents	Numerie velue	110	
1	NUU				
2	N01	Number of Collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	7	
3	N02	Number of Derailments of trains	Numeric value	6	
4	N03	Number of Level-crossing accidents, including accidents involving pedestrians at level- crossings	Numeric value	7	
5	N04	Number of Accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	83	
6	N05	Number of Fires in rolling stock	Numeric value	9	
7	N06	Number of Other accidents	Numeric value	7	
1.1b. R	elative to	p million train kilometres number of accidents and a break-down into the following types	of accidents	1	
8	N10	Relative to train km Total Number of all accident	Numeric value (train km in million)	-	
9	N11	Relative to train km Number of Collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
10	N12	Relative to train km Number of Derailments of trains	Numeric value (train km in million)	-	
11	N13	Relative to train km Number of Level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
12	N14	Relative to train km Number of Accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
13	N15	Relative to train km Number of Fires in rolling stock	Numeric value (train km in million)	-	
14	N16	Relative to train km Number of Other accidents	Numeric value (train km in million)	-	
1.2a. T	otal num	ber of suicides	•	-	
15	N07	Number of events: suicide	Numeric value	111	
1.2b. R	Relative to	o million train kilometres number of suicides			
16	N17	Relative to train km Number of events: suicide	Numeric value (train km in million)	-	
1.3a. T	otal num	ber of accidents involving the transport of dangerous goods divided into the following ca	ategories	1	
17	N18	Total number of accidents involving at least one railway vehicle transporting dangerous goods	Numeric value	2	
18	N19	Number of accidents involving at least one railway vehicle transporting dangerous goods in which dangerous goods are NOT released	Numeric value	1	
19	N20	Number of accidents involving at least one railway vehicle transporting dangerous goods in which dangerous goods ARE released	Numeric value	1	
1.3b. R	Relative to	o million train kilometres Total number of accidents involving the transport of dangerous	goods divided into the following categories	1	
20	N21	Relative to train km Total number of accidents involving at least one railway vehicle transporting dangerous goods	Numeric value (train km in million)	-	
21	N22	Relative to train km Number of accidents involving at least one railway vehicle transporting dangerous goods in which dangerous goods are NOT released	Numeric value (train km in million)	-	
22	N23	Relative to train km Number of accidents involving at least one railway vehicle transporting dangerous goods in which dangerous goods ARE released	Numeric value (train km in million)	-	
2.1a. T	otal num	ber of Persons seriously injured by type of accident divided into the following categories	5	1	
23	TS00	Total number in all accidents	Numeric value	71	
24	TS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	18	
25	TS02	In derailments of trains	Numeric value	13	
26	TS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
27	TS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	36	
28	TS05	In fires in rolling stock	Numeric value	0	
29	TS06	In others	Numeric value	4	
2.1b. R	Relative to	o million train kilometres total number of Persons seriously injured by type of accident di	ivided into the following categories		
30	TS10	Total number in all accidents	Numeric value (train km in million)	-	
31	TS11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
32	TS12	In derailments of trains	Numeric value (train km in million)	-	
33	TS13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
34	TS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
35	TS15	In fires in rolling stock	Numeric value (train km in million)	-	
36	TS16	In others	Numeric value (train km in million)	-	
			1	•	
2.2a. T	2.2a. Total number of Passengers seriously injured by type of accident divided into the following categories				

	Guidelines for data transmission and file formats ver.2010				
number	Data code	Description of data	Data format	Example of data	
37	PS00	Total number in all accidents	Numeric value	35	
38	PS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	18	
39	PS02	In derailments of trains	Numeric value	0	
40	PS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
41	PS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	17	
42	PS05	In fires in rolling stock	Numeric value	0	
43	PS06	In others	Numeric value	0	
2.2b. R	Relative to	o million train kilometres total number of Passengers seriously injured by type of accider	nt divided into the following categories		
44	PS10	Total number in all accidents	Numeric value (train km in million)	-	
45	PS11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
46	PS12	In derailments of trains	Numeric value (train km in million)	-	
47	PS13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
48	PS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
49	PS15	In fires in rolling stock	Numeric value (train km in million)	-	
50	PS16	In others	Numeric value (train km in million)	-	
2.2C. R	PS20	o million passenger train kilometres total number of Passengers seriously injured by type	e of accident divided into the following categories	_	
52	PS20		Numeric value (pass. train km in million)	-	
52	PS21		Numeric value (pass. train km in million)	_	
54	P 322	In detailments of trains	Numeric value (pass. train km in million)	-	
54	F 323	In ever-clossing accounts, including accounts involving percestions at rever-clossings		-	
55	P 024	In accidents to persons caused by rolling stock in motion, with the exception of suicides		-	
57	P 525		Numeric value (pass. train km in million)	-	
2 2d F	PS20	In others o million passenger kilometres total number of Passengers seriously injured by type of a	content divided into the following categories	-	
58	PS30	Total number in all accidents	Numeric value (pass. km in million)	7.54E-04	
59	PS31	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (pass. km in million)	3,88E-04	
60	PS32	In derailments of trains	Numeric value (pass. km in million)	0.00E+00	
61	PS33	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (pass. km in million)	0,00E+00	
62	PS34	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (pass. km in million)	3.66E-04	
63	PS35	In fires in rolling stock	Numeric value (pass. km in million)	0.00E+00	
64	PS36	In others	Numeric value (pass. km in million)	0,00E+00	
2.3a. T	otal num	ber of Employees including the staff of contractors seriously injured by type of accident	divided into the following categories		
65	SS00	Total number in all accidents	Numeric value	7	
66	SS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0	
67	SS02	In derailments of trains	Numeric value	0	
68	SS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
69	SS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	3	
70	SS05	In fires in rolling stock	Numeric value	0	
71	SS06	In others	Numeric value	4	
2.3b. R	Relative to	o million train kilometres total number of Employees including the staff of contractors se	riously injured by type of accident divided into the fol	llowing categories	
72	SS10	Total number in all accidents	Numeric value (train km in million)	-	
73	SS11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
74	SS12	In derailments of trains	Numeric value (train km in million)	-	
75	SS13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
76	SS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
77	SS15	In fires in rolling stock	Numeric value (train km in million)	-	
78	SS16	In others	Numeric value (train km in million)	-	
2.4a. T	otal num	ber of Level-crossing users seriously injured by type of accident divided into the following the series of the ser	ng categories	0	
79	LS00			0	
80	1.501	In contisions or trains, including contisions with obstacles within the clearance gauge	Numeric value	0	
01	1.002			0	
02 02	1 504	In rever-crossing accidents, including accidents involving pedestrians at rever-crossings		0	
83	1.005	In accuents to persons caused by rolling stock in motion, with the exception of suicides		0	
84	1.505	In mes in rolling Stock	Numeric value	0	
85 2 /h 5	LSU6	In others million train kilometres total number of Lavel-processing upper pariouply injugad by types	Invinienc value	U	
86	LS10	Total number in all accidents	Numeric value (train km in million)	-	
87	LS11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
			· · · · · · · · · · · · · · · · · · ·		

	Guidelines for data transmission and file formats ver.2010				
number	Data code	Description of data	Data format	Example of data	
88	LS12	In derailments of trains	Numeric value (train km in million)	-	
89	LS13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
90	LS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
91	LS15	In fires in rolling stock	Numeric value (train km in million)	-	
92	LS16	In others	Numeric value (train km in million)	-	
2.5a. T	otal num	ber of Unauthorised persons seriously injured by type of accident divided into the follow	ving categories	1	
93	USOO	Total number in all accidents	Numeric value	16	
94	US01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0	
95	US02	In derailments of trains	Numeric value	0	
96	US03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
97	US04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	16	
98	US05	In fires in rolling stock	Numeric value	0	
99	US06	In others	Numeric value	0	
2.5b. R	listo	5 million train kilometres total Total number of Unauthorised persons seriously injured b	y type of accident divided into the following categorie	es	
100	0310			-	
101	0511	In consions of trains, including consions with obstacles within the clearance gauge		-	
102	0512	In deraiments of trains	Numeric value (train km in million)	-	
103	0513	In rever-crossing accidents, including accidents involving pedestrians at rever-crossings		-	
104	0514	In accidents to persons caused by rolling stock in motion, with the exception of succes		-	
105	0515			-	
106 2.6a T	otal num	In others		-	
107	OS00	Total number in all accidents	Numeric value	13	
108	OS01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0	
109	0502	In derailments of trains	Numeric value	13	
110	OS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
111	0504	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	0	
112	OS05	In fires in rolling stock	Numeric value	0	
113	OS06	In others	Numeric value	0	
2.6b. R	Relative to	o million train kilometres total number of Other persons seriously injured by type of accie	dent divided into the following categories	-	
114	OS10	Total number in all accidents	Numeric value (train km in million)	-	
115	OSII	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
116	OS12	In derailments of trains	Numeric value (train km in million)	-	
117	OS13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
118	OS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
119	OS15	In fires in rolling stock	Numeric value (train km in million)	-	
120	OS16	In others	Numeric value (train km in million)	-	
				•	
3.1a. T	otal num	ber of Persons killed by type of accident divided into the following categories			
121	ткоо	Total number in all accidents	Numeric value	81	
122	TK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	1	
123	TK02	In derailments of trains	Numeric value	30	
124	ткоз	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	5	
125	ТК04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	45	
126	TK05	In fires in rolling stock	Numeric value	0	
127	ТК06	In others	Numeric value	0	
3.1b. R	Relative to	o million train kilometres total number of Persons killed by type of accident divided into t	the following categories		
128	TK10	I otal number in all accidents	Numeric value (train km in million)	-	
129	IK11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
130	IKI2	In derailments of trains	Numeric value (train km in million)	-	
131	1K13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
132	1 KI 4	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
133	1 KI 5	In tires in rolling stock	Numeric value (train km in million)	-	
134	IKI6	In others	Numeric value (train km in million)	-	
135		Total number in all accidents	Numeric value	5	
136	PK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0	
137	PK02	In derailments of trains	Numeric value	0	
107	1102			l v	

	Guidelines for data transmission and file formats ver.2010					
number	r Data code	Description of data	Data format	Example of data		
138	PK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0		
139	PK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	5		
140	PK05	In fires in rolling stock	Numeric value	0		
141	PK06	In others	Numeric value	0		
3.2b. R	Relative to	million train kilometres total number of Passengers killed by type of accident divided in	nto the following categories	1		
142	PK10	Total number in all accidents	Numeric value (train km in million)	-		
143	PK11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-		
144	PK12	In derailments of trains	Numeric value (train km in million)	-		
145	PK13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-		
146	PK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-		
147	PK15	In fires in rolling stock	Numeric value (train km in million)	-		
148	PK16	In others	Numeric value (train km in million)	-		
3.2c. R	Relative to	million passenger train kilometres total number of Passengers killed by type of acciden	t divided into the following categories			
149	PK20			-		
150	PK21	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (pass. train km in million)	-		
151	PK22	In derailments of trains	Numeric value (pass. train km in million)	-		
152	PK23	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (pass. train km in million)	-		
153	PK24	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (pass. train km in million)	-		
154	PK25	In fires in rolling stock	Numeric value (pass. train km in million)	-		
155	PK26	In others	Numeric value (pass. train km in million)	-		
3.20. R		Total number in all accidente	Numeric value (pass, km in million)	1.085-04		
150	PK30			0.005+00		
157	PK31		Numeric value (pass. km in million)	0,00E+00		
150	PK32		Numeric value (pass. km in million)	0,00E+00		
109	PK33	In revel-crossing accidents, including accidents involving pedestrians at revel-crossings	Numeric value (pass. km in million)	0,00E+00		
100	PK34	In accidents to persons caused by rolling stock in motion, with the exception of suicides		1,08E-04		
160	PK35		Numeric value (pass. km in million)	0,00E+00		
3.3a. T	otal num	per of Employees including the staff of contractors killed by type of accident divided into	the following categories	0,002100		
163	SK00	Total number in all accidents	Numeric value	5		
164	SK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	1		
165	SK02	In derailments of trains	Numeric value	0		
166	SK03					
167		In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0		
	SK04	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value Numeric value	0 4		
168	SK04 SK05	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock	Numeric value Numeric value Numeric value	0 4 0		
168 169	SK04 SK05 SK06	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others	Numeric value Numeric value Numeric value Numeric value	0 4 0 0		
168 169 3.3b. R	SK04 SK05 SK06 Relative to	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate	0 4 0 0 gories		
168 169 3.3b. R 170	SK04 SK05 SK06 Relative to SK10	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories -		
168 169 3.3b. R 170 171	SK04 SK05 SK06 Relative to SK10 SK11	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million) Numeric value (train km in million)	0 4 0 gories - -		
168 169 3.3b. R 170 171 172	SK04 SK05 SK06 Relative to SK10 SK11 SK12	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million) Numeric value (train km in million) Numeric value (train km in million)	0 4 0 gories - - -		
168 169 3.3b. R 170 171 172 173	SK04 SK05 SK06 Celative to SK10 SK11 SK12 SK13	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - -		
168 169 3.3b. R 170 171 172 173 174	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In derailments of persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion accidents In accidents to persons caused by rolling stock in motion accidents In ac	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - - - -		
168 169 3.3b. R 170 171 172 173 174	SK04 SK05 SK06 Relative to SK10 SK11 SK12 SK13 SK14 SK15	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains	Numeric value Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176	SK04 SK05 SK06 Relative to SK10 SK11 SK12 SK13 SK14 SK15 SK16	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In others In others In fires in rolling stock In others In ot	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T	SK04 SK05 SK06 Celative tr SK10 SK11 SK12 SK13 SK14 SK15 SK16	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categories	Numeric value Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK00	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil motilion train kilometres total number of Employees including the staff of contractors kil n collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents	Numeric value Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - - - - - - 5		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178	SK04 SK05 SK06 Celative to SK11 SK12 SK13 SK14 SK15 SK16 otal num LK00 LK01	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million)	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 3.4a. T 177 178 179	SK04 SK05 SK06 Celative to SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK00 LK01 LK02	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains	Numeric value (train km in million)	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180	SK04 SK05 SK06 Celative to SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK00 LK01 LK02 LK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents involving pedestrians at level-crossings In accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In level-crossing accidents, including accidents involving pedestrians at level-crossings In level-crossing accidents, including accidents involving pedestrians at level-crossings In level-crossing accidents, including accidents involving pedestrians at level-crossings In level-crossing accidents, including accidents involving pedestrians at level-crossings In level-crossing accidents, including accidents invol	Numeric value (train km in million) Numeric value Numeric value Numeric value Numeric value	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 otal num LK00 LK01 LK03 LK04	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In accidents to persons total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains In level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In accidents to persons caused by rolling stock in motion, with the exception of suicides In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons caused by rolling stock in motion, with the exception of suicides In accidents to persons	Numeric value (train km in million) Numeric value Numeric value Numeric value Numeric value Numeric value	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK00 LK01 LK03 LK04 LK05	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In accidents to persons total number of Employees including the staff of contractors kil In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In fires in roll	Numeric value Numeric value Numeric value Numeric value Ied by type of accident divided into the following cate Numeric value Ied by type of accident divided into the following cate Numeric value (train km in million) Numeric value	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181 182	SK04 SK05 SK06 Celative tr SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK00 LK01 LK02 LK04 LK05 LK06	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others	Numeric value Numeric value Numeric value Numeric value Vumeric value Vumeric value Vumeric value Vumeric value (train km in million) Numeric value (train km in million) S Numeric value	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181 182 183 3.4b. R	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK00 LK01 LK00 LK01 LK02 LK03 LK04 LK05 LK04	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In chers In collisions of trains, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Total number in all accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Total number of Level-crossing users killed by type of accident of Total number of trains involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in	Numeric value Numeric value Numeric value Numeric value Numeric value Version value Numeric value Numeric value (train km in million) Numeric value	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181 182 183 3.4b. R 184 183	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 otal num LK00 LK01 LK02 LK03 LK04 LK05 LK06 Celative to LK06	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Define the exception of suicides In fires in rolling stock In others Define the exception of suicides In collisions of trains, including collisions with obstacles within the clearance gauge In derailments to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Define the exception of suicides In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Define the persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Define the persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Define the persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Define the persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock I	Numeric value (train km in million) Numeric value	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181 182 183 3.4b. R 184 185	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 otal num LK00 LK01 LK01 LK02 LK03 LK04 LK05 LK06 Celative to LK10	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others million train kilometres total number of Employees including the staff of contractors kil Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains, including collisions with obstacles within	Numeric value Numeric value Numeric value Numeric value Numeric value Value Value Value Value Value Value Value Value (train km in million) Vameric value (train km in million) Numeric value Numeric valu	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181 182 183 3.4b. R 184 185 186 100	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 otal num LK01 LK02 LK03 LK04 LK05 LK06 Calative to LK10 LK11	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In accidents to persons total number of Employees including the staff of contractors kil In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Per of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In fires in rolling stock In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within	Numeric value Numeric value Numeric value Numeric value Numeric value Value Value Value Value Value Value (train km in million) Valueric value (train km in million) Numeric value N	0 4 0 gories - - - - - - - - - - - - - - - - - - -		
168 169 3.3b. R 170 171 172 173 174 175 176 3.4a. T 177 178 179 180 181 182 183 3.4b. R 184 185 186 187	SK04 SK05 SK06 SK10 SK11 SK12 SK13 SK14 SK15 SK16 Otal num LK01 LK02 LK03 LK04 LK05 LK06 Calative to LK11 LK12	In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In accidents to persons caused by rolling stock in motion, with the exception of suicides In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In others Der of Level-crossing users killed by type of accident divided into the following categorie Total number in all accidents In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In level-crossing accidents, including accidents involving pedestrians at level-crossings In accidents to persons caused by rolling stock in motion, with the exception of suicides In fires in rolling stock In others In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles within the clearance gauge In derailments of trains In collisions of trains, including collisions with obstacles	Numeric value (train km in million) S Numeric value Numeric	0 4 0 gories - - - - - - - - - - - - - - - - - - -		

	Guidelines for data transmission and file formats ver.2010				
number	Data code	Description of data	Data format	Example of data	
189	LK15	In fires in rolling stock	Numeric value (train km in million)	-	
190	LK16	In others	Numeric value (train km in million)	-	
3.5a. T	otal num	ber of Unauthorised persons killed by type of accident divided into the following categor	ries	1	
191	UK00	Total number in all accidents	Numeric value	36	
192	UK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0	
193	UK02	In derailments of trains	Numeric value	0	
194	UK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
195	UK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	36	
196	UK05	In fires in rolling stock	Numeric value	0	
197	UK06	In others	Numeric value	0	
3.5b. R	Relative to	Inilion train kilometres total Total number of Unauthorised persons killed by type of acceleration of the second secon	cident divided into the following categories	Т	
198	UK10	Total number in all accidents	Numeric value (train km in million)	-	
199	UK11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
200	UK12	In derailments of trains	Numeric value (train km in million)	-	
201	UK13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
202	UK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
203	UK15	In fires in rolling stock	Numeric value (train km in million)	-	
204	UK16	In others	Numeric value (train km in million)	-	
3.6a. T	otal num	ber of Other persons killed by type of accident divided into the following categories		1	
205	OK00	Total number in all accidents	Numeric value	30	
206	OK01	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value	0	
207	OK02	In derailments of trains	Numeric value	30	
208	OK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value	0	
209	OK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value	0	
210	OK05	In fires in rolling stock	Numeric value	0	
211	OK06	In others	Numeric value	0	
3.6b. R	Relative to	> million train kilometres total number of Other persons killed by type of accident divided	I into the following categories	1	
212	OK10	Total number in all accidents	Numeric value (train km in million)	-	
213	OK11	In collisions of trains, including collisions with obstacles within the clearance gauge	Numeric value (train km in million)	-	
214	OK12	In derailments of trains	Numeric value (train km in million)	-	
215	OK13	In level-crossing accidents, including accidents involving pedestrians at level-crossings	Numeric value (train km in million)	-	
216	OK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numeric value (train km in million)	-	
217	OK15	In fires in rolling stock	Numeric value (train km in million)	-	
218	OK16	In others	Numeric value (train km in million)	-	
4.1a. T	otal num	ber of events relating to precursors of accidents and a break-down into the following typ	bes		
219	100	Total number of precursors	Numeric value	1101	
220	l01	Total number of broken rails	Numeric value	404	
221	102	Total number of track buckles	Numeric value	677	
222	103	Total number of wrong-side signalling failures	Numeric value	0	
223	104	Total number of signals passed at danger	Numeric value	15	
224	105	Total number of broken wheels on rolling stock in service	Numeric value	1	
225	106	Total number of broken axles on rolling stock in service	Numeric value	4	
4.1b. R	Relative to	million train kilometres number of precursors and a break-down into the following type	s of accidents		
226	l10	Total number of precursors	Numeric value (train km in million)	-	
227	l11	Total number of broken rails	Numeric value (train km in million)	-	
228	l12	Total number of track buckles	Numeric value (train km in million)	-	
229	I13	Total number of wrong-side signalling failures	Numeric value (train km in million)	-	
230	l14	Total number of signals passed at danger	Numeric value (train km in million)	-	
231	l15	Total number of broken wheels on rolling stock in service	Numeric value (train km in million)	-	
232	l16	Total number of broken axles on rolling stock in service	Numeric value (train km in million)	-	
			•		
5.1a. Ir	ndicators	to calculate the economic impact of accidents			
233	C00	Economic impact of ALL accidents	Numeric value in €	-	
234	C10	Economic impact of significant accidents ONLY	Numeric value in €	127238708	
235	C01	Economic impact of fatalities	Numeric value in €	114361378	
236	C02	Economic impact of serious injuries	Numeric value in €	12877330	
As a re	sult of AL	Laccidents		<u>.</u>	

	Guidelines for data transmission and file formats ver.2010					
number	Data code	Description of data	Data format	Example of data		
237	C03	Cost of material damages to rolling stock or infrastructure (all accidents)	Numeric value in €	"_"		
238	C07	Cost of damage to the environment (all accidents)	Numeric value in €	"_"		
239	C04	Cost of delays as a consequence of all accidents	Numeric value in €	0		
240	C05	Minutes of delays of passenger trains (all accidents)	Numeric value (minutes)	"_"		
241	C06	Minutes of delays of freight trains (all accidents)	Numeric value (minutes)	"_"		
As a re	sult of sig	nificant accidents ONLY	·			
242	C13	Cost of material damages to rolling stock or infrastructure (significant accidents)	Numeric value in €	"_"		
243	C17	Cost of damage to the environment (significant accidents)	Numeric value in €	"_"		
244	C14	Cost of delays as a consequence of significant accidents	Numeric value in €	0		
245	C15	Minutes of delays of passenger trains (significant accidents)	Numeric value (minutes)	"_"		
246	C16	Minutes of delays of freight trains (significant accidents)	Numeric value (minutes)	"_"		
5.1b. R	elative to	o million train kilometres the economic impact of accidents		1		
247	C20	Relative to train km, Economic impact of ALL accidents	Numeric value in €/trainkm (train km in million)	-		
248	C21	Relative to train km, Economic impact of significant accidents ONLY	Numeric value in €/trainkm (train km in million)	-		
249	C22	Economic impact of fatalities	Numeric value in €/trainkm (train km in million)	-		
250	C23	Economic impact of serious injuries	Numeric value in €/trainkm (train km in million)	-		
251	C24	Cost of material damages to rolling stock or infrastructure of ALL accidents	Numeric value in €/trainkm (train km in million)	-		
252	C25	Cost of delays as a consequence of ALL accidents	Numeric value in €/trainkm (train km in million)	-		
253	C26	Cost of material damages to rolling stock or infrastructure of significant accidents	Numeric value in €/trainkm (train km in million)	-		
254	C27	Cost of delays as a consequence of significant accidents	Numeric value in €/trainkm (train km in million)	-		
6.1a. In	dicators	relating to technical safety of infrastructure and its implementation				
255	101	Percentage of tracks with Automatic Train Protection (ATP) in operation	Numeric value (%) (67% = 0.67)	92,37%		
256	102	Percentage of train kilometres using operational ATP systems	Numeric value (%)	78,80%		
257	T03	Total number of level crossings (active and passive)	Numeric value	#VALORE!		
258	T06	Total number of active level crossings	Numeric value	#VALORE!		
259	T07	with automatic user-side warning	Numeric value	" <u>-</u> "		
260	108	with automatic user-side protection	Numeric value	"-"		
261	109	with automatic user-side protection and warning	Numeric value	<u>.</u>		
262	110	with automatic user-side protection and warning, and rail-side protection		" <u>-</u> "		
263	111	with manual user-side warning	Numeric value	"-"		
264	T12	with manual user-side protection	Numeric value	" <u>-</u> "		
265	T13	with manual user-side protection and warning	Numeric value	"_"		
266	T14	Total number of passive level crossings	Numeric value	"-"		
267	T15	Relative to line km number of level crossings (active and passive)	Numeric value	-		
268	T16	Relative to line km number of active level crossings	Numeric value			
269	T17	with automatic user-side warning	Numeric value			
270	T18	with automatic user-side protection	Numeric value	_		
271	T19	with automatic user-side protection and warning				
272	T20	with automatic user-side protection and warning, and rail-side protection	Numeric value	-		
273	T21	with manual user-side warning	Numeric value	-		
274	T22	with manual user-side protection	Numeric value	-		
275	T23	with manual user-side protection and warning	Numeric value	-		
276	T24	Relative to line km number of passive level crossings	Numeric value	-		
6.1c. R	elative to	b track km, indicators relating to technical safety of infrastructure and its implementation				
277	T04	Relative to track km number of level crossings (active and passive)	Numeric value	-		
278	T25	Relative to track km number of active level crossings	Numeric value	-		
279	T26	with automatic user-side warning	Numeric value	-		
280	T27	with automatic user-side protection	Numeric value	-		
281	T28	with automatic user-side protection and warning	Numeric value	-		
282	T29	with automatic user-side protection and warning, and rail-side protection	Numeric value	-		
283	T30	with manual user-side warning	Numeric value	-		
284	T31	with manual user-side protection	Numeric value	-		
285	T32	with manual user-side protection and warning	Numeric value	-		
286	T33	Relative to track km number of passive level crossings	Numeric value	-		
7. Indic	ators re	lating to the management of safety	1	·		
287	A01	Total number of accomplished audits	Numeric value	2431		
288	A02	Percentage of audits accomplished /required (and/or planned).	Numeric value (%)	84,97%		

	Guidelines for data transmission and file formats ver.2010												
number	Data code	Description of data	Data format	Example of data									
8. Reference data traffic and infrastructure													
289	89 R01 Total number of Train km Numeric value (in million Train*km) 0,000												
290	R02	Number of Passenger km	46425,694										
291	R05	Number of Passenger train km	Numeric value (in million Train*km)	"-"									
292	R06	Number of Freight train km	Numeric value (in million Train*km)	"_"									
293	R07	R07 Number of Freight tonne km Numeric value (in million tonne*km)											
294	R08	Number of line kilometres (double track lines are to be counted ONCE)	Numeric value (in km)	19742,000									
295	R03	Number of track kilometres (double track lines are to be counted TWICE) Numeric value (in km)											



Annex C.2: List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7	8	3	ç		10	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	staff in comp	cluding anies	level cross	sing users	unauth pers	orised	oth	ers
			accident/incident			fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
1	8/1/2009	GRIZZANA-S. BENEDETTO S.C.P.	Passengers falling from rolling stock in motion	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	1	0	0	0	0	0	0	0	0	0
2	15/1/2009	FARA SABINA- PIANA BELLA MONTELIBRETTI	Persons run down (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
3	27/1/2009	MILANO ROGOREDO	Company staff carrying out duties run down or harmed	Abnormalities affecting work teams/sites	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	1	0	0	0	0	0	0
4	28/1/2009	ROMAGNANO V BALVANO R.	Train collision with landslides, masses and trees on track	Landslides/masse s/trees blocking the line	train collision	0	0	0	0	0	0	0	0	0	0
5	29/1/2009	ORTE	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
6	30/1/2009	PONTE DI PIAVE	Collision between special vehicles	Abnormalities affecting work teams/sites	other types of accident	0	0	0	1	0	0	0	0	0	0
7	31/1/2009	PESCARA PORTA NUOVA- FRANCAVILLA AL MARE	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
8	31/1/2009	FLORENCE S.MARIA NOVELLA	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
9	6/2/2009	FOGGIA- CERVARO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
10	9/2/2009	IL CIONFO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
11	28/2/2009	ROME TIBURTINA	Harm to persons during exit/ descent from carriages	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
12	5/3/2009	NAPLES CENTRAL	Passengers falling from rolling stock in motion	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	1	0	0	0	0	0	0
13	5/3/2009	SURBO FM	Collision of moving rolling stock with	Obstacles interfering with	other types of accident	0	0	0	1	0	0	0	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7		8	ę)	1	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	staff in comp	ciuding anies	level cross	sing users	unauth pers	orised ons	oth	ers
			accident/incident			fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
			other obstacles	free transit area											
14	19/3/2009	LECCE	Passengers falling from rolling stock in motion	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	1	0	0	0	0	0	0	0	0	0
15	20/3/2009	PORDENONE- CUSANO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
16	28/3/2009	CASSINO- FONTANAROSA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
17	2/4/2009	FERRARA	State railway staff run down/harmed during service	Abnormalities affecting work teams/ sites	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	1	0	0	0	0	0	0
18	3/4/2009	ITRI-FORMIA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
19	9/4/2009	POLICASTRO BUSSENTINO	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
20	16/4/2009	ALBA ADRIATICA NERETO CONTR.	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
21	17/4/2009	SEREGNO	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
22	20/4/2009	VILLA S. GIOVANNI BOLANO- REGGIO DI CALABRIA CATONA	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
23	23/4/2009	CASALBUTTANO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
24	24/4/2009	TURIN DORA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6	-	7		3	ę	9	1	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	comp	anies	level cross	sing users	pers	ons	oth	ers
			accident/incident			fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
25	26/4/2009	LATINA	Passengers falling from rolling stock in motion	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
26	27/4/2009	MILAN P.GENOVA- MILAN S.CRISTOFORO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
27	7/5/2009	BOLZANO	Collision between rolling stock while shunting	Irregular shunting movements	other types of accident	0	0	0	0	0	0	0	0	0	0
28	8/5/2009	PADUA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
29	11/5/2009	ASTI	Collision with persons (excl. level crossings)	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	1	0	0	0	0	0	0	0	0	0
30	14/5/2009	CASERTA	Collision with persons (excl. level crossings)	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
31	14/5/2009	FORMIA	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
32	25/5/2009	ROBILANTE- ROCCAVIONE	Derailment of traction unit or rolling stock forming part of train	Mechanical or electrical defects/wear in rolling stock/traction units	train derailment	0	0	0	0	0	0	0	0	0	0
33	25/5/2009	SACILE	Persons run down at closed level crossings (incl. cyclists)	Level crossings: Persons or cyclists improperly crossing	level-crossing accidents	0	0	0	0	1	0	0	0	0	0
34	2/6/2009	FLORENCE CASCINE-S. DONNINO BADIA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
35	6/6/2009	MIGLIARINO PISANO-PISA SAN ROSSORE	Derailment of traction unit or rolling stock forming part of train	Mechanical or electrical defects/wear in rolling stock/traction units	train derailment	0	0	0	0	0	0	0	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7	8	3	ę)	1	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	staff in comp	anies	level cross	sing users	unauth pers	orised	oth	ers
			accident/incident			fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
36	13/6/2009	CAMNAGO- LENTATE	Persons run down at closed level crossings (incl. cyclists)	Level crossings: Persons or cyclists improperly crossing	level-crossing accidents	0	0	0	0	1	0	0	0	0	0
37	14/6/2009	S. GIOVANNI IN CROCE- CASALMAGGIOR E	Persons run down at closed level crossings (incl. cyclists)	Level crossings: Persons or cyclists improperly crossing	level-crossing accidents	0	0	0	0	1	0	0	0	0	0
38	21/6/2009	GENOA BRIGNOLE	Harm to persons during exit/ descent from carriages	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
39	22/6/2009	VAIANO-PBA87- 133-4	Derailment of traction unit or rolling stock forming part of train	Mechanical or electrical defects/wear in rolling stock/traction units	train derailment	0	0	0	0	0	0	0	0	0	0
40	22/6/2009	PARABIAGO- CANEGRATE	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
41	23/6/2009	S.DONATO MILANESE	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
42	29/6/2009	VIAREGGIO	Derailment of traction unit or rolling stock forming part of train	Mechanical or electrical defects/wear in rolling stock/traction units	train derailment	0	0	0	0	0	0	0	0	30	13
43	1/7/2009	MODENA- RUBIERA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
44	9/7/2009	S. ILARIO- PARMA	Company staff run down/harmed while carrying out duties	Abnormalities concerning work teams/sites	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	1	0	0	0	0	0	0	0
45	11/7/2009	MILAN LANCETTI- MILANO P.GARIBALDI SOTTERRANEA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
46	18/7/2009	FLORENCE CAMPO MARTE	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	1	0	0	0	0	0	0	0
47	28/7/2009	MANDELA- SAMBUCI	Derailment of traction unit or	Train arrival/departure	train derailment	0	0	0	0	0	0	0	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7		3	ę)	1	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	staff in comp	anies	level cross	sing users	unauth pers	orised ons	oth	ers
			accident/incident			fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
			rolling stock forming part of train	without checks											
48	29/7/2009	ASTI	Harm to persons during exit/ descent from carriages	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
49	30/7/2009	VARESE	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
50	2/8/2009	PRATO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
51	11/8/2009	MANDATORICCI O CAMPANA- CARIATI	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
52	14/8/2009	RIMINI-RIMINI MIRAMARE	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
53	15/8/2009	TORRE DEL LAGO PUCCINI- MIGLIARINO PISANO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
54	20/8/2009	S. MARCELLINO FRIGNANO- AVERSA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
55	21/8/2009	LIDO DI LAVINIO- PADIGLIONE	Persons run down at closed level crossings (incl. cyclists)	Level crossings: Persons or cyclists improperly crossing	level-crossing accidents	0	0	0	0	1	0	0	0	0	0
56	24/8/2009	TURIN P.NUOVA	Harm to persons during exit/ descent from carriages	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
57	25/8/2009	VILLA S. GIOVANNI BOLANO- REGGIO DI CALABRIA CATONA	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
58	28/8/2009	RICCIONE- MISANO ADRIATICO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
59	1/9/2009	MILAN CERTOSA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the	0	0	0	0	0	0	1	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7	3	3	g)	1	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	staff in comp	cluding anies	level cross	sing users	unauth pers	orised	oth	ers
	uuto	looddoll	accident/incident		Lintelacomount	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
					exception of suicides)										
60	1/9/2009	MONSELICE- BATTAGLIA TERME	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
61	15/9/2009	TIVOLI	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
62	16/9/2009	LIERNA-OLCIO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
63	17/9/2009	ORICOLA- PERETO- CARSOLI	Train collisions with road vehicles at closed level crossing	Level crossings: improper crossing / forcing by vehicles	level-crossing accidents	0	0	0	0	1	0	0	0	0	0
64	20/9/2009	MILAN CENTRAL- MILAN LAMBRATE	Collision of rolling stock being shunted against buffers	Incorrect overriding of VI ground signal	other types of accident	0	0	0	0	0	0	0	0	0	0
65	21/9/2009	MILAN CENTRAL	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
66	25/9/2009	PONTE GALERIA- FIUMICINO AIRPORT	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
67	25/9/2009	BRESCIA TERMINAL	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
68	26/9/2009	S. ZENONE AL LAMBRO- MELEGNANO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
69	2/10/2009	SESTO S. GIOVANNIMILAN GRECO PIRELLI	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
70	15/10/ 2009	PARCO PRENESTINO- ROME TERMINI	Passengers falling from rolling stock in motion	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	1	0	0	0	0	0	0	0	0	0
71	18/10/ 2009	MEZZOCORONA	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
72	18/10/ 2009	PORDENONE- CUSANO	Passengers falling from rolling stock in motion	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	1	0	0	0	0	0	0	0	0	0
73	19/10/ 2009	VALDIBRANA- PITECCIO	Train colliding with other obstacles	Irregularity in track geometry (jolting/buckling /broken rail) or	train collision	0	0	0	0	0	0	0	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7		3	ç)	1	0	1	1
No	date	location	type of	cause of event	FRA classification	pass	enger	staff in comp	cluding anies	level cross	sing users	unauth pers	orised	oth	ers
	uuto	loodion	accident/incident		Lint Glabolitoution	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
				irregular trackbed											
74	22/10/ 2009	SECUGNAGO	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
75	26/10/ 2009	VIAREGGIO- CAMAIORE LIDO CAPEZZANO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
76	29/10/ 2009	GRAMMICHELE- CALTAGIRONE	Harm to persons due to handling doors / windows	Accidental breakage of a window	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
77	30/10/ 2009	ROME TIBURTINA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
78	1/11/2009	VILLA LITERNO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
79	5/11/2009	FLORENCE Rrailway infrastructureREDI	State railway staff run down/harmed during service	Abnormalities affecting work teams/sites	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	1	0	0	0	0	0	0	0
80	6/11/2009	DEV. USC. TO. LING MONCALIERI	Collision between special vehicles	Abnormalities affecting work teams/sites	other types of accident	0	0	0	2	0	0	0	0	0	0
81	13/11/200 9	PORCARI- TASSIGNANO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
82	13/11/200 9	SEREGNO	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
83	16/11/200 9	MURATELLA- PONTE GALERIA	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
84	18/11/200 9	ROME TUSCOLANA- ROME TERMINI	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
85	28/11/200 9	PONTECAGNAN O	Harm to persons during exit/ descent from carriages	Improper exit/descent from train	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	0	0	0	0
86	28/11/200 9	BAGNI DI TIVOLI	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
87	1/12/2009	CERVETERI- LADISPOLI	Collision with persons (excl. level crossings)	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	0	1	0	0
88	2/12/2009	S. MARIA CAPUA VETERE-CAPUA	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	1	0	0	0	0	1	0	0	0
89	10/12/ 2009	BUONCONVENT O MURLO	Derailment of special	Abnormalities affecting work	other types of accident	0	0	0	0	0	0	0	0	0	0



	List of accidents on the National Rail Infrastructure, compiled in order to prepare the Common Safety Indicators pursuant to Directive 2004/49/EC - 2009														
1	2	3	4	5	6		7	8	}	ę)	1	0	1	1
No.	date	location	type of	cause of event	ERA classification	pass	enger	staff in comp	cluding anies	level cross	sing users	unauth pers	orised sons	oth	ers
			accident/incident			fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured	fatalities	injured
			vehicles	teams/sites											
90	11/12/ 2009	PIACENZA- CAORSO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0
91	14/12/ 2009	MANTA- SALUZZO	Collision of moving rolling stock with other obstacles	Runaway rolling stock	other types of accident	0	0	0	0	0	0	0	0	0	0
92	19/12/ 2009	SCALA DI GIOCCA- PLOAGHE	Train collision with landslides, masses and trees on track	Landslides/masse s/trees blocking the line	train collision	0	0	1	0	0	0	0	0	0	0
93	19/12/ 2009	CASSINO- PIEDIMONTE	State railway staff run down/harmed during service	Improper crossing of track	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	1	0	0	0	0	0	0	0
94	26/12/ 2009	FONTANAROSA- CASSINO	Collision with persons (excl. level crossings)	Persons on line/not at a safe distance	accidents to persons caused by rolling stock in motion (with the exception of suicides)	0	0	0	0	0	0	1	0	0	0



Annex D: Main changes in legislation and regulations



	LEGISLATION	DATE LEGISLATION ENTERED IN FORCE	GROUNDS FOR INTRODUCTION (STATE WHETHER NEW LAW OR AMENDMENT TO EXISTING LAW	PARTICULARS
NATIONAL LEGISLATION RELATING GENERALLY TO RAILWAY SAFETY		-	-	
	Law No 99 of 23 July 2009	08.08.2009	New. Provisions for the development and internationalisation of enterprises, and energy	Amends Legislative Decree No 188/2003. Lays down new regulations on licences and authorisations. Under certain conditions exonerates railway infrastructures that provide international passenger transport services between stations in different Member States.
Legislation concerning the national authority responsible for safety	Decree Law No 135 of 25 September 2009	26.09.2009	New. Urgent provisions for the implementation of Community obligations and for executing European Community Court of Justice judgements	Amends Legislative Decree 188/2003 and contains provisions for of Legislative Decree No 162/2007.
	ANSF Decree 1/2009	21.4.2009	New. Attribution of powers with regard to rail traffic safety	In accordance with powers assigned it by Legislative Decree 162/07, the Authority establishes the framework of powers with regard to the Authority itself, railway infrastructures, the Infrastructure Operator, independent safety auditors, manufacturers and service providers.
Legislation concerning notified bodies, assessors, third party bodies responsible for registration, tests etc.	Decree of 22 December 2009	22.12.2009	New. Implementation of Regulation (EC) No 765/2008	Appointment of Accredia as the only Italian national body authorised to conduct accreditation and monitoring activities in the market.
NATIONAL REGULATIONS RELATING TO RAILWAY SAFETY				
Regulations relating to objectives and safety methods in force at national level	ANSF Decree 10/2009	28.10.2009	Amendment. Rules for drawing up and issuing Annual Safety Plans	Defines procedures for preparing, issuing and monitoring annual safety plans for train traffic and railway operation, repealing RFI Provisions No 56/2003 and No 21/2005
Regulations relating to requirements of railway undertaking safety management and certification systems and regulations concerning requirements relating to infrastructure operator safety management systems	NONE			
Regulations concerning requirements for wagon owners	NONE			



	LEGISLATION	DATE LEGISLATION ENTERED IN FORCE	GROUNDS FOR INTRODUCTION (STATE WHETHER NEW LAW OR AMENDMENT TO EXISTING LAW	PARTICULARS
Regulations concerning requirements for maintenance workshops	NONE			
	ANSF memo reg. no. 892/09 of 19 February 2009	19.2.2009	New. Rolling stock hire	The memo identifies aspects that it is compulsory to include in contractual hire agreements for rolling stock between railway infrastructures with the aim of allowing traceability of data on the use of the rolling stock by an undertaking other than the one that applied for registration
	ANSF memo reg. no. 5571/09 of 7 October 2009	7.10.2009	Amendment. Rolling stock hire	Supplements aspects laid down in ANSF memo reg. no. 892/09 19 February 2009 on compliance with deadlines for equipping rolling stock with SCMT or SSC subsystems.
Regulations on requirements for authorisation for service start-up and maintenance of new or substantially modified rolling stock, including regulations governing the exchange of rolling stock between railway undertakings, registration systems and requirements relating to inspection procedures	ANSF memo reg. no. 4658/09 of 17.08.09	17.8.2009	New. Guidelines for registration of rolling stock eligible to operate on the national rail infrastructure	The purpose of the measure is to allow railway infrastructures and the infrastructure operator to obtain registration of rolling stock for which technical eligibility has been issued and to allow the Authority to allocate the 12- figure European identification number.
	ANSF memo reg. no. 645/09 of 05.02.09	5.2.2009	New. Implementation of Ministerial Directive No 81/T	The measure identifies tasks and procedures to be carried out by railway infrastructures, suppliers and internal safety auditors in respect of SCMT and SSC deadlines laid down in the Ministerial Directive.
	ANSF Directive 1/dir/2009	Part 1 July 2009/part 13 12.2009	New. Directive on the operation of trains unprotected by train movement protection systems	The Authority provides RFI and railway infrastructures with guidelines on the use of rolling stock not equipped with on-board subsystems and the use of a dead-man's vigilance device, even beyond the deadlines laid down in Ministerial Directive 81/T.
Regulations relating to requirements to be met by staff performing essential safety tasks, including selection criteria, medical fitness, vocational training and certification	ANSF Decree 14/2009	8.2.2010	Amendment. Issuing of Standards for the accreditation of staff instructors and examiners performing safety activities and consequent amendments to the regulations in force.	The measure amends and updates previous measures on accreditation for instructors training railway infrastructure staff responsible for safety tasks.
Regulations on investigations into accidents and incidents, including recommendations	NONE			



	LEGISLATION	DATE LEGISLATION ENTERED IN FORCE	GROUNDS FOR INTRODUCTION (STATE WHETHER NEW LAW OR AMENDMENT TO EXISTING LAW	PARTICULARS
Regulations relating to national safety indicated requirements, including regulations on the method of collecting and analysing indicators	ANSF memo reg. no. 3170 of 17 June 2009	17.6.2009	New. Guidelines for drawing up an annual safety report	Provides rail infrastructures and infrastructure operators with guidelines for drawing up the report under Article 13(4) of Legislative Decree 162/07
Regulations relating to requirements for authorisation for service of starter of infrastructures (rails, bridges, tunnels, energy, ATC, radio, signalling systems, central devices, level crossings, platforms, etc)	NONE			
Regulations on instructions for staff responsible for safety tasks	NONE			
	ANSF Decree 2/2009	24.5.2009	 Amendment. Technological implementations proposed by the infrastructure operator concerning: dual outfitting with SCMT and SSC ground subsystems; introduction of SSC+RSC operating modes; introduction of a new DMI function (touch screen); 	Amendments to regulatory texts to bring regulations into line with technological implementations.
Regulations for operating the railway network, including regulations on signalling and traffic management systems	ANSF Decree 3/2009	12.06.2009	Amendment. Reorganisation of system for managing railway traffic abnormalities due to the improper occupation of station track circuits, along the lines of regulations already in use for some time on lines operated remotely.	Amendments to regulatory texts by means of which the national railway infrastructure operator is given the power to establish, following appropriate analysis, the procedure to be adopted for each stretch of station track in the event that the central station device lighting panel indicates improper occupation of the track circuit.
	ANSF Decree 4/2009	24.5.2009	Amendment. Further updates not included in those issued in decree 2/2009.	This regulation supplements those issued in decree 2/2009.



LEGISLATION	DATE LEGISLATION ENTERED IN FORCE	GROUNDS FOR INTRODUCTION (STATE WHETHER NEW LAW OR AMENDMENT TO EXISTING LAW	PARTICULARS
ANSF Decree 5/2009	27.7.2009	Amendment. Update and tightening of regulations governing the operation of passenger trains made up of rolling stock with door command control from the drivers, following certain incidents, some of which were severe (passengers falling from the train).	 Amendments to regulatory texts, introducing: Prohibition of operation of trains subject to the decree when door closed status signals are not present in the driver's cab when the train leaves the servicing plant; more restrictive regulations if door closure status signals are not present in the driver's cab: the train service is allowed to continue (but no later than midnight on the day following the day on which the abnormality occurred) to a place where the fault can be repaired, but only after implementing all measures identified by the railway undertaking with the aim of alleviating risks.
ANSF Decree 6/2009	1.7.2009	Amendment. Alignment of operating regulations contained in regulatory texts with the content of directive 1/dir/2009 (operation of trains unprotected by SCMT or SSC systems)	Amendments to regulatory texts implementing the contents of directive no 1/dir/2009 (first implementation stage)
ANSF Decree 7/2009	22.8.2009	Amendment. On the request of the infrastructure operator, with the aim of governing instances where trains operate with the on-board subsystem in an isolated state on the Milan-Bologna line equipped with ERTMS/ETCS L2 without fixed lighting signals	Possibility of driving at a higher speed (150 km/h) than that established for Staff Responsible mode (60 km/h), under certain conditions (including: stretch free of trains; blocking of routes in station posts encountered by the train; reduction of top speed to 60 km/h from the last station post before the HV/HC line exit interconnection).
ANSF Decree 8/2009	To coincide with the entry into force of the No/Mi HSL stretch prior to commercial operation	Amendment. Alignment of regulatory texts in force to the specific technological features of the new Novara - Milan HS/HV stretch of the Turin – Milan line./	Issue of regulations for the pre-operational stage of the Turin – Milan HS/HV stretch.
ANSF Decree 11/2009	To coincide with activation of the Turin/Mi HSL stretch	Amendment. Issue of regulations under decree 8/2009, necessary for commercial operation of the Turin – Milan HSL line equipped with ERTMS/ETCS L2 without fixed light signals	Issue of regulations for the operational stage of the Turin – Milan HS/HV stretch.
ANSF Decree 12/2009	13.12.2009	Amendment. Adoption of the additional limits laid down by directive no 1/dir/2009	Amendments to regulatory texts implementing the contents of directive no 1/dir/2009 (second implementation stage)
ANSF Decree 13/2009	To coincide with the commercial service start-up of the next	Amendment. Alignment of operating regulations for traffic on HSL lines equipped with ERTMS/ETCS L2 without fixed light signals as a consequence of constructing Evacuation	Amendments to regulations with the aim of managing evacuation posts in long railway tunnels, introducing the following main measures:



LEGISLATION	DATE LEGISLATION ENTERED IN FORCE	GROUNDS FOR INTRODUCTION (STATE WHETHER NEW LAW OR AMENDMENT TO EXISTING LAW	PARTICULARS
	Bo/Florence HSL stretch	Posts and the adoption of new functions.	 procedure for emergency management and passenger evacuation; Limit on spacing of trains between two evacuation posts (a single train in operation); use of the 'agreed revocation of MA'function and reversing areas to be used for stopping at the evacuation points; use of reversing mode to optimise halting at evacuation post emergency exits. Harmonisation of line service regulations for ERTMS/ETCS L2 lines without light signals.
Draft decree Q/2009	18.12.2009	Amendment. Testing of service regulations for the operation of trains equipped with SCMT on-board subsystems also designed to perform SSC functions;	Amendments to regulatory texts to bring regulations into line with technological implementations.



Annex E: Certification of Railway Undertakings – 2009


Undertakings holding a railway licence

A list of licences active at 31 December 2009 is shown below; data obtained from Ministry of Infrastructures and Transport website

Railway undertaking	Licence No.	Issued on	Carriage type	Safety certificate
Trenitalia SpA	1	23/05/2000	Goods and Passengers	YES
LeNord srl (formerly Ferrovie Nord Milano Trasporto srl) (formerly Ferrovie Nord Milano Esercizio SpA)	2	23/06/2000	Goods and Passengers	YES
Rail Traction Company SpA	4	23/06/2000	Goods	YES
MET.RO SpA (formerly Metroferro)	6	20/12/2000	Passenger	NO
Metronapoli SpA	7	21/12/2000	Passenger	Revoked
Trasporto Ferroviario Toscano SpA (formerly La Ferroviaria Italiana SpA)	8	14/03/2001	Goods and Passengers	YES
Ferrovia Adriatico Sangritana srl	10	08/05/2001	Goods and Passengers	YES
Hupac SpA	11	14/05/2001	Goods	YES
Ferrovia Centrale UMBRA srl	14	23/07/2001	Goods and Passengers	YES
G.T.T. SpA (formerly S.A.T.T.I. SpA)	16	27/07/2001	Passenger	YES
Ferrovia Emilia-Romagna srl	17	03/08/2001	Goods and Passengers	YES
Ferrovie del Gargano srl	18	28/11/2001	Goods and Passengers	YES
Sistemi Territoriali SpA (formerly Ferrovie Venete srl)	19	4/12/2001	Goods and Passengers	YES
DB Schenker Rail Italia srl (formerly Railion Italia Srl) (formerly Strade Ferrate del Mediterraneo srl)	20	20/12/2001	Goods	YES
SNCF Fret Italia srl (formerly Monferail srl)	21	20/12/2001	Goods	YES
SAD – Trasporto locale SpA	22	28/12/2001	Passenger	YES
SERFER – Servizi Ferroviari Srl	25	13/05/2002	Goods and Passengers	YES
Azienda Trasporti Milanese SpA	26	13/05/2002	Goods and Passengers	NO
MetroCampania Nord Est srl (formerly Ferrovia Alifana e Benevento Napoli Srl)	28	13/12/2002	Goods and Passengers	YES



Railway undertaking	Licence No.	Issued on	Carriage type	Safety certificate
Ferrovie del Sud Est	31	26/03/2003	Goods and Passengers	NO
SBB Cargo Italia srl (formerly Swiss Rail Cargo Italy srl)	32	26/03/2003	Goods	YES
NordCargo srl (formerly Ferrovie Nord Cargo srl)	33	23/05/2003	Goods	YES
Ferrotramviaria SpA	34	19/02/2004	Goods and Passengers	YES
Ignazio Messina SpA	36	22/12/2004	Goods	NO
Ferrovie Udine Cividale srl	37	02/02/2005	Goods and Passengers	YES
RailOne SpA	39	08/07/2005	Goods and Passengers	YES
Veolia Cargo Italia srl (formerly C-Rail srl)	40	12/10/2005	Goods and Passengers	YES
Linea srl (formerly Tiber.Co srl)	41	11/08/2006	Goods	YES
InRail srl	42	09/10/2006	Goods and Passengers	YES
S.E.P.S.A. SpA	43	04/12/2006	Goods and Passengers	NO
Nuovo Trasporto Viaggiatori SpA	44	06/02/2007	Passenger	YES
Crossrail Italia srl	45	22/03/2007	Goods	YES
Mediterranean Railways srl	46	31/05/2007	Goods	NO
Arenaways srl	47	06/07/2007	Passenger	YES
G.M.C. International Trade Spa	48	12/09/2007	Goods	NO
Ferrovie della Calabria srl	49	21/09/2007	Goods and Passengers	YES
G.T.S. General Transport Service	50	21/03/2008	Goods	YES
C.F.I. Compagnia Ferroviaria Italiana srl	51	21/03/2008	Goods and Passengers	YES
Orione srl	52	19/05/2008	Goods	NO
Oceanogate Italia srl	53	01/06/2008	Goods	NO
Consorzio Speed Rail Ways	54	04/09/2008	Goods	NO
Rail Italia srl	55	11 /09/2008	Goods	NO
BLS Cargo Italia srl	56	26/09/2008	Goods	NO



Railway undertaking	Licence No.	Issued on	Carriage type	Safety certificate
Interport Servizi Cargo srl	57	11/05/2009	Goods	YES
Grandi Treni Espressi srl	58	22/06/2009	Passenger	NO
Trenitalia – Le Nord srl	59	21/10/2009	Passenger	NO
Società Viaggiatori italia srl	60	21/12/2009	Passenger	NO



Safety Certificate applications during 2009

Railway undertaking	Application	Service	Lines
G.M.C. International Trade Spa	27/03/2008	Goods + Dangerous Goods	Alcamo – Palermo Palermo – Messina Catania – Messina
ORIONE srl	29/04/2008	Dangerous	Trento – Verona – Bologna S.Donato
BLS Cargo Italia	30/10/2008	Dangerous + Dangerous Goods	Domodossola - Novara (RoLa rolling highway) Domodossola - Novara – Alessandria Domo II - Novara (UKV) Domo II - Turin Orbassano Domo II - Gallarate
TX Logistic AG	19/03/2009	Dangerous	Verona - Brenner
Oceanogate Italia SpA	13/07/2009	Dangerous + Dangerous Goods	La Spezia Marittima – Parma Parma – Lavino Lavino – Bologna Interport Bologna Interport – Occhiobello Occhiobello – Padua Padua – Padua Interport La Spezia Marittima – Pisa Pisa – Florence Castello Florence Castello – Prato Prato – Castelbolognese Castelbolognese – Bologna Interport



Applications for Safety Certificate extensions during 2009

Railway undertaking	Application	Service	Lines
GTS	08/04/2008 10/04/2008 02/12/2008 01/04/2009 10/06/2009	Dangerous goods	Safety certificate stretches 37/2009
Ferrotramviaria	06/11/2008	Passenger	Pescara - S.Vito - Termoli - S.Severo - Foggia - Barletta - Bari Parco Nord - Bari C.le - Bari Parco Sud - Brindisi - Surbo - Lecce Bari c.le - Gioia del Colle - Taranto Foggia - Benevento - Caserta - Bivio Nola - Nola
	18/03/2009	Dangerous goods	Safety Certificate lines 114/07
	08/09/2009	Dangerous + Passenger	Pescara – Rimini
DB SCHENKER RAIL ITALIA Sri	30/07/2008 18/02/2009 24/02/2009	Dangerous	Brescia S.Zeno Brescaia – Verona P.N. Scalo – Verona Q.E. Reggio Emilia – Modena Cantalupo – Nizza M. – Castagnole – Bra – Cavallermaggiore Bra - Carmagnola
Ferrovie Udine Cividale	31/03/2009	Dangerous goods	All lines already certified
	01/07/2009 02/07/2009 01/09/2009	Dangerous + Passenger	Trieste C.Marzio - Trieste Aquilina
Railone SpA	07/04/2009	Passenger	Safety Certificate lines 125/2008
Нирас	30/04/2009	Dangerous + Dangerous goods	Milan Lambrate – Brescia Milan Lambrate – Voghera Brescia – Vicenza Vicenza – Padua Padua – Padua Interport
Compagnia Ferroviaria Italiana	08/07/2009	Dangerous + Dangerous goods	Parma - Fornovo – S. Stefano M. Bivio Calderara – Bivio Trebbo – Castelmaggiore – Bologna In.to
	29/12/2009		Orte – Terni
SNCF Fret Italia	04/08/2009 27/11/2009 02/12/2009	Dangerous + Dangerous goods	Cuneo – Limone Bivio Castelrosso – Casale M. – Valenza Chivasso – Ivrea Turin shunting yard Nord – Turin Lingotto
Arenaways	09/09/2009	Passengers	Turin P.Susa Sotterranea – Turin Stura PM Turin Rebaudengo Fossat a Valenza – Casale – Casale popolo – Bivio Castelrosso – Chivasso



Railway undertaking	Application	Service	Lines
	12/11/2009		Turin Lingotto – Turin P.N. Turin P.N – Turin P.Susa Domodossola – Novara via Arona and via Borgomanero
	17/12/2009		Biella – Santhià/ Biella – Novara
Crossrail	11/09/2009	Dangerous + Dangerous goods	Mortara – Torreberetti – Valenza – Alessandria – Alessandria shunting yard Alessandria – Tortona –Voghera – Broni – Piacenza Faenza – Rimini – Falconara –Ancona Codogno – Acquanegra – Cavatigozzi – Cremona Melzo – Treviglio C. – Rovato – Brescia Sc. – Brescia Treviglio – Crema – Olmeneta – Cremona Sesto Calende – Laveno Gallarate – Laveno – Luino Milan Rogoredo – Pavia – Voghera – Tortona – Arquata Alessandria – Asti – Trofarello – Turin Lingotto – Quadrivio Zappata – Turin Orbassano Alessandria – Alessandria Shunting yard Alessandria – Cantalupo – Aqui Terme – San Giuseppe Cairo Novara – Vercelli – Santhià – Chivasso – Turin Porta Susa – Turin Lingotto Turin Porta Susa – Bivio Crocetta – Turin S.Paolo – Turin Orbassano Alessandria Shunting yard – Novi S.B. – Arquata Castelbolognese – Lugo – Russi – Ravenna
Ferrovie Emilia Romagna	06/10/2009	Passenger + Dangerous + Dangerous goods	Aulla – Lucca La Spezia Centrale – Genoa Sampirdarena Shunting yard Piacenza – Casalpusterlengo – Milan Rogoredo B/PC Melegnano – Milan Rogoredo Milan Rogoredon – PM Trecca PM Trecca – Milan shunting yard Treviglio – Pioltello Pioltello – Milan shunting yard Pioltello – Milan Lambrate Milan Lambrate – Milan Central Orte – Falconara Marittima Ancona – Ancona Marittima Fidenza – Salsomaggiore Piacenza – Broni – Voghera Voghera – Tortona Tortona – Novi Ligure – Aquata Scrivia Arquata Scrivia – Ronco Scrivia Genoa Sampierdarena Shunting yard – Genoa Marittima PM Trecca – Milan Lambrate Treviglio Ovest – PM Adda Voghera – Milan Rogoredo (via Bressana B./Pavia) Ancona – Pescara Ronco Scriva - Q.Torbella (via Busalla, via Mignanego) Q.Torbella – Genoa Sampierdarena shunting yard Genoa Sampierdarena – Bivio Castelluccio Genoa Sampierdarena – Bivio Castelluccio (via loop) Bivio Castelluccio – Genoa Voltri Mare Bolzano – Brenner Padua Campo Marte – Camposampiero Camposampiero – Castelfranco Veneto Camposampiero – Cittadella



Railway undertaking	Application	Service	Lines
Ferrovia Adriatico Sangritana	25/11/2009	Passenger + Dangerous + Dangerous goods	Porto d'Ascoli - Ascoli Piceno
Serfer	11/12/2009	Dangerous + Dangerous goods	Savigliano – Cuneo Treviglio – Bergamo Padua – Bologna San Donato Brescia – Parma Verona Quadrante Europa – Mantua Verona Quadrante Europa – Mantua Verona Quadrante Europa – Mantua Ferrara – Ravenna Cittadella – Bassano del Grappa Florence Rifredi – Florence Osmannoro Mortara – Casalmonferrato Cremona – Bergamo (via Treviglio) Cremona – S.Zeno Brescia – Brescia Scalo – Bivio Mella Cremona – Nogara Rovato – Lecco La Spezia – Parma Lecco – Molteno – Albate Lecco – Tirano