

ANNUAL SAFETY REPORT for Italian railways regulated by the Italian National Safety Authority

2013

Piazza della Stazione, 45 50123 FLORENCE Italy **Tel.:** 0039 055 2356620 - 0039 06 41582379 **Fax:**055 2356495 **agenzia.sicurezza@ansf.it** www.ansf.it



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PART A – INTRODUCTION

A.1 Purpose and scope

This document has been prepared in accordance with article 7 of Legislative Decree No 162 of 10 August 2007 'Implementing the European Community Railway Safety Directives 2004/49/EC and 2004/51/EC', which incorporates Article 18 of Directive 2004/49/EC.

It describes the safety trend in 2013 in the part of the Italian railway system which, pursuant to the aforementioned decree, the Italian National Safety Authority (hereinafter the Authority) is responsible for regulating, authorising and supervising. At present this comprises the national railway infrastructure, the management of which is contracted out on a concessionary basis to Rete Ferroviaria Italiana SpA (RFI [*Italian Railway Network*]) by Decree 138-T of 31 October 2000 of the Transport Ministry (concession agreement), and the rail transport service operated over the infrastructure by Railway Undertakings holding a safety certificate whereas the Authority is still not responsible for railway traffic safety on the regional networks.

The document reflects the structure of the document 'Annual Safety Report – Template – Network of National Safety Authorities' (Version 1.2) issued by ERA (European Railway Agency) on 5 September 2013. It is published on the Italian National Safety Authority's website <u>www.ansf.it</u> and is sent to the European Railway Authority and the Ministry for Infrastructure and Transport.

A.2 Organisational changes

The Authority was established by Legislative Decree No 162 of 10 August 2007, which also defines the tasks attributed to it. It is a non-economic public authority and is independent of the railway operators and of the investigation body. It is supervised by the Ministry for Infrastructure and Transport.

The Authority started operating in June 2008 using, as expressly provided for in the decree establishing it, staff on the payroll of the Ministry for Infrastructure and Transport and the FS Group, who reported to the Authority while still being employed by the Ministry or the Company from where they came. This regulatory provision ensured that technical know-how was maintained during the initial phase.

After the regulation to recruit staff (Presidential Decree No 224 published 19 January 2012) was issued, the Authority was able to complete the first procedure for placing staff on its own payroll. Since completion of that procedure in October 2012, the Authority has operated fully independently, including with functional independence, with 98 full-time employees (FTE) in service.

Following the last spending review (Prime Ministerial Decree of 22 January 2013, implementing Article 2 of Decree Law No 95/2012) the revised organisation chart contains 265 FTEs rather than the 300 FTEs originally established. The reduction also included executive management positions.

In accordance with the total staffing level of 265 FTEs, on the basis of the actual operating requirements and in accordance with the provisions of Article 4 (10) of Legislative Decree No 162/2007, we undertook to reassess the Authority's workforce (Resolution No 1/2013 of 17 July 2013). This also involved, for each Area indicated by the aforementioned Prime Ministerial Decree, dividing the resources between the various categories stipulated in the relevant Collective Labour Agreement.



On the basis of the reassessment of the new staffing level, a three-year programme for the Authority's staffing needs was agreed along with a corresponding recruitment plan.

The recruitment plan approval process (by the Ministry for the Economy and Finance, the Ministry for the Civil Service and the Ministry for Infrastructure and Transport) concluded with an instrument issued by the Ministry for Infrastructure and Transport on 22 October 2013. In addition, in order to start the recruitment process, the resolution to reassess and distribute staffing levels had to be approved. This was done by an interdepartmental decree from the aforementioned ministries on 8 January 2014.

At the end of this process, the Authority was authorised to engage staff, by means of transfers from other government bodies and public competitive examinations, 60 FTEs according to a three-year programme.

Currently, the Authority is starting the transfer procedures which, in accordance with the provisions of Legislative Decree No 165/2001, must be activated before embarking on competitive examination procedures.

Finally, in April 2014, Amedeo Gargiulo became director of the Italian National Safety Authority. The appointment, proposed to the Council of Ministers by the Minister for Infrastructure and Transport, was ratified by Presidential Decree on 9 April 2014. The previous Director, Alberto Chiovelli, left at the end of his term of office, having served two three-year terms.

PART B – GENERAL TREND AND STRATEGY IN RAILWAY SAFETY

B.1 Main conclusions on the year in question

In 2013 there were four rail collisions or derailments of trains, listed in the table below, which caused at least one fatality or five serious injuries or damage worth €2 million, and which thus come under the definition of 'serious accident' referred to in Article 3 of Directive 2004/49/EC of the European Parliament and Council of 29 April 2004.

Serious	Serious accidents according to the definition in Article 3 of Directive 2004/49/EC occurring in 2013						
Date	Place	Description	Consequences				
06/05/13	Tirano – Villa di Tirano	Collision between train 5194 and a TIR (heavy goods vehicle) on the railway track following an accident on the road running parallel to the railway line	2 fatalities				
25/06/13	Formia	Derailment of train 60629 due to broken axle journal	Over €2 million of damage				
07/11/13	Pontida – Cisano Capr.B.	Collision between train 5036 and an ambulance at LX km 16+279 with the barriers open	2 fatalities and 1 serious injury				
01/12/13	Ordona – Santuario Incor.	Derailment of train 3546 due to flooding of the River Carapelle	Over €2 million of damage				



In the rest of this report, serious accident means an accident covered by the definition of 'serious accident' in the Appendix to Annex 1 of Directive 2004/49/EC¹.

Based on this definition of 'serious accident', in 2013 there were 100, a reduction on the 107 in 2012.

A reduction in total accidents was also recorded; this includes those not classified as 'serious'.

With regard to the consequences to persons, there were 62 fatalities and 34 serious injuries (respectively 69 and 39 in 2012).

The combined trend of the frequency of occurrence of serious accidents and of their consequences is shown in the graph below. It shows the level of achievement of the target to 'tend towards achieving a zero accident rate, taking account of regulatory changes and technical and scientific progress, and giving priority to the prevention of serious accidents', imposed on parties with safety-related tasks in the 'Powers regarding responsibility for Rail Traffic Safety' (paragraph 2.1) issued by the Authority by Decree 4/2012.

This target combines the requirements of:

- Article 8 of Presidential Decree No 753 of 11 July 1980, which states that 'in railway operations, the measures and precautions proposed by technology and practice and suitable for preventing losses should be adopted'
- Article 1 (1) of Legislative Decree No 162 of 9 August 2007, incorporating Article 4 (1) of Directive 2004/49/EC sets out 'the target of maintaining and, where reasonably practicable, constantly improving the safety of the Italian rail system, taking account of regulatory changes and technical and scientific progress, and giving priority to the prevention of serious accidents'.

The graph shows how, in the years in question, the overall trend (blue arrow) is in line with the target (dotted green arrow). This trend, which is good overall, is actually the result of a first part of the period (2005-2008) being markedly in line with the target and a second part (2009-2012) where the data is clustered around the lowest values of the previous four years, as shown by the circles on the graph grouping the periods 2005-2008 and 2009-2012.

¹ Pursuant to this Annex I, an accident is considered serious if it involved at least one railway vehicle in motion and if it caused at least one fatality or serious injury or damage equal to or greater than €150,000 to the tracks, facilities or environment or traffic was interrupted for six hours or more. Accidents in workshops, warehouses or depots are excluded, as are those caused by deliberate acts (suicides or vandalism).





IT	EN
Andamento congiunto della frequenza di	Combined trend of the frequency of occurrence of
accadimento degli incidenti e della gravità delle	accidents and of the severity of the consequences
conseguenze periodo 2005-2013	2005-2013
Incidenti gravi / mln trkm	Serious accidents / million train kilometres
	(mln trkm)
Valore aggregato morti + feriti gravi	Fatalities + serious injuries total value

In 2013 the values recorded were among the lowest of the entire period and the trend compared to 2012 (black arrow) seems to be back in line with the target.

As will become evident from the details of the data reported in Part C of this report, a more marked reduction in accidents and their consequences must necessarily involve reducing the accident rate related to the unauthorised presence on, or crossing of, railway tracks by pedestrians. This phenomenon comes under the category of 'unauthorised persons on the railway tracks' which, in 2013, were the source of 76% of the serious accidents (in 2012, 74%) and of 81% (in 2012, 77%) of the victims. In the period observed, this data has not shown significant reductions; it has had a negative influence on performance and has led to the national reference values (NRV), based on the corresponding common safety target (CST), being exceeded.

To counter these types of occurrence, in 2013 the Authority started a series of actions to raise awareness among the public, particularly the young, through initiatives with the educational world, the Railway Police and other institutions. The Authority also wanted to raise the awareness of the Railway Undertakings and, especially, the Infrastructure Manager about this problem and asked for their collaboration in preparing a map of the specific risk of this type of incident. This should help concentrate the necessary efforts to reduce the extent of this problem.

However, we cannot reduce the attention paid to accidents more closely related to technical aspects of railway transport (for example, derailments) as these, even though they lead to a lower percentage of victims, are also the accidents that can potentially generate disastrous consequences. As a result it is vital to implement every possible form of prevention.



With regard to this type of accidents, there is still a high incidence of causes related to lack of, or poor, maintenance (37.5% in 2013, compared to 39% in 2012).

In this regard, of particular concern, found in the analysis of several accidents, is the emergence of the failure to use technological systems or individual components that perform important safety functions due to inadequate maintenance. Maximising the use of safety technologies available is an essential requirement for the safe operation of the railway system as well as being the correct way to reap the benefits of the sizable state investments made over the years specifically to install these technologies.

There is still plenty of room for improvement at the organisational level for the railway operators to produce a Safety Management System in line with the EU directives and capable of guaranteeing more effective internal inspection procedures to reinforce monitoring, maintenance and staff training activities and to ensure, in critical areas, the prompt implementation of risk control measures.

Reference needs to be made to the problem of hydrogeological disturbances on which the Authority has called for more incisive action by the Network Manager to adopt precautionary measures aimed at ensuring safety of rail traffic, but which require the constant commitment of all institutions at local and national level.

In 2013 there were no serious accidents related to the problem of the stability of civil engineering works (or structures) but on 11 May the deck of a road viaduct collapsed on the Sulmona – Terni line. The need has emerged, with regard to this problem, to adapt the process for checking and inspecting bridges and civil engineering structures in general. In August 2013 the Manager presented the requested change to the instructions governing inspection activities.

As indicated in paragraph 2.10, the Authority continues to perform inspections to monitor the state of civil engineering structures. As is the case with hydrogeological disturbances, the Manager has still not produced a feasibility study on installing stability alarm sensors on these engineering structures in the event of natural disasters.

Also in 2013, the supervisory activity performed by the Authority was the major source of information on which the safety recommendations to the operators were based. Approximately 5% more controls were made than in 2012 and many non-conformities were recorded. Though there was a reduction compared with 2012, they were found in 12% of surveys made.

However, there is a need to increase the supervisory activity and in this respect, we should take the opportunity offered by the authorisation for the Authority to recruit more staff as well as to have the provision on sanctions issued that will make the inspection activity more binding.

On the national level, 2013 was marked by the entry into force of Authority Decree 4/2012 and of the texts issued at the same time, whereby the reorganisation of the principles of railway traffic safety was implemented, and which was also the opportunity to improve some of the safety principles. The railway operators must complete the review of their internal processes to bring them into line with regulatory changes, taking the opportunity for the system to grow in terms of safety offered by clear rules and open to their requirements.

With regard to international freight traffic, the Authority has intervened promptly (following accidents, reports, safety alerts, etc.) to limit the critical areas that have emerged with interventions restricting the use of the components concerned. One difficulty still remains, however, concerning the adoption of harmonised measures at European level. In this regard, the Authority has continued in 2013 to be committed directly, or in support of the relevant ministry's action, to making mandatory the measures agreed at European level by the task force established after the Viareggio accident.



Still on the international front, greater commitment has been requested of national Railway Undertakings to endeavour in their relationships with foreign partners to strengthen controls and generally to raise the quality of transport in terms of safety, by means of a series of well-defined actions.

The actions for the operators to implement should not take away from the need to strengthen their internal technical structures so that they can pay more attention to management of safety-related processes from the point of view of controls, the structuring of these processes, risk evaluation and staff training which are the basis of safe operation of the system.

The actions required of the Infrastructure Manager in the context of the process for issuing the final Safety Authorisation are progressing extremely slowly. Some procedural and organisational changes have been made and some actions requested back in 2010 have been started but full compliance with the provisions of the EU Directive on the Safety Management System has not been achieved.

The Infrastructure Manager is becoming more aware of the need to intervene promptly with provisions limiting or restricting rail traffic if an adequate maintenance level cannot be guaranteed or whenever safety is potentially at risk.

However, more incisive intervention is needed by the Infrastructure Manager to comply with the procedures to safely perform interventions in the event of faults to systems or equipment with an impact on operations, which are the source of incidents and sometimes serious accidents (Lavino accident on 12 July 2012).

B.2 Strategy, programmes and national initiatives relating to safety

The Authority performs the tasks assigned to it by the current regulatory framework, constituted by Legislative Decree No 162 of 10 August 2007 and the 'Powers regarding responsibility for railway traffic safety', Annex A of Decree 4/2012 of 9 August 2012, independently, organising and directing the available resources.

The main activities are:

- Supervision
- Certification
- Authorisation for commissioning subsystems to service
- Supervision of regulatory activity
- Issue and storage of technical standards
- International activity.

The general principles for organising these activities are set out in the aforementioned Authority Decree 4/2012 of 9 August 2012. The specific organisation of the activities and the quantitative data are related in the following points of this report.

Each year, the Authority receives from the Ministry for Infrastructure and Transport the quantitative targets it has to achieve in performing the tasks assigned by the current regulatory framework. These targets and their achievement are measurable in quantitative terms. In 2013 all the targets were achieved.

By 15 July of each year, the Authority informs the Infrastructure Manager and the Railway Undertakings of the targets and critical areas of the railway system so that they can prepare the annual safety plan for the following year. On the basis of the data from the Authority's supervisory activity and the elements communicated by the railway operators with the annual safety reports, the priority areas are identified towards which the railway operators must direct their safety-related interventions. Interventions do not normally resolve matters in a short period of time but require longer



periods to implement and recalibrate measurements. This is one reason why critical areas sometimes remain for several years.

For 2013 the Authority identified the following critical areas, some of which were indicated in previous years, which are useful for achieving the national macro-targets it has set for the Infrastructure Manager and the Railway Undertakings:

- implementation of the measures to obtain safety certificates and safety authorisation;
- dissemination of the culture of railway safety, from defining the policy to performing the service;
- organisation and safe management of the production processes and systematic control of the related risks in their part of the system, at the interfaces with other operators, maintenance providers and suppliers of services in general, and generated by external activities;
- cooperation and communication between the railway operators regarding safety problems;
- identification and analysis of the data that is significant for safety and its monitoring to determine the trends with respect to achieving the pre-set targets;
- management of emergencies and interaction with the competent safety authorities for the safeguarding of passengers.

Within the critical areas listed above two macro-areas stand out where intervention is necessary and which have a major impact on the accident rate:

- events linked to the unauthorised presence on, or crossing of, railway tracks by pedestrians;
- accidents that are more closely linked with technical aspects (for example, derailments and collisions) which, whilst resulting in a smaller percentage of victims, are also the types of event that can generate disastrous accidents. It is therefore necessary that the actions aimed at prevention continue and are improved.

B.2.1 Initiatives for the mitigation of problems related to the unauthorised presence of pedestrians on the railway tracks

The reduction of the incidence of events related to the unauthorised presence of pedestrians on railway tracks was given as a target to the Infrastructure Manager and the Railway Undertakings. However, we must state that so far there is no systematic approach to mitigating this problem, despite the commitments made by the railway operators.

There are greater expectations of the Manager and of greater coverage of the specific powers assigned to its role (see Article 36 of Presidential Decree No 753/1980) concerning the identification of critical points and the preparation of suitable structures separating them from the railway tracks.

As regards raising LX user awareness, while waiting for more widespread efforts by all the railway operators, the Authority has not neglected its own role and has promoted advertising campaigns, including in schools, to encourage more responsible behaviour.

In pursuing its primary institutional target of maintaining the collective good of safety, in 2013 the Authority took many initiatives aimed at disseminating the culture of railway safety to users and especially the young.

To this end, as the Authority's strictly technical activity puts it in contact with the railway operators rather than directly with transport users, it had to start synergic actions with other institutions.

Also during 2013, the Authority and the Railway Police Service of the State Police continued to share experiences as a result of the Protocol of Understanding for institutional collaboration entered into on 20 December 2010. In particular, the



Authority offered the Railway Police teaching and training assistance by delivering 11 training sessions, 3 of which were at regional Railway Police divisions (Bari, Venice and Verona) and 8 at the State Police Training Centre at Cesena (of these, one of them was to the Railway Accident Operations Unit, three to train Railway Police staff using the Infrastructure Manager's database and four providing updates on service specialisations).

Also as part of institutional synergies, a totally new initiative at EU level was the plan to raise awareness of the proper use of the railways among young people, as each year a high price is paid in terms of human life due to unauthorised presence on the railway tracks. The plan, which was started in experimental form in 2012, but very successfully, in Tuscany under the name of 'First... real railway education' was expanded in 2013 to Sicily (22 April 2013) and Lombardy (12 November 2013). It was shared locally with the Regional Schools Office, the Railway Police Division and the Regional Government and targeted secondary schools. After entering into a protocol of understanding with the aforementioned institutions, a competition was launched to produce works (in any expressive form and language chosen by the young people: technical documents, in-depth analyses, video clips, etc.) that encourage young people, who already use the railways or are potential users, to reflect on the topic of the correct use of trains. The response, both in terms of the young people involved and of the content and creativity, was very positive in the experiment conducted in Tuscany and we therefore trust that the projects started in 2013 will also be successful.

As a further aim of the awareness raising aimed at young people concerning the conscious, responsible and safe use of rail transport, the Authority has developed a totally innovative communication strategy with the Railway Police and the Federazione Italiana Pallacanestro (FIP) [Italian Basketball Federation] also aimed at young people. The programme agreement (22 July 2013) is aimed at disseminating among young people the culture of self-protection and the proper use of rail transport, using as the means of communication a combination of the rules of communicate to young people the topic of self-protection in an attractive way and in terms of values rather than imposing messages from on high that are too general to be effective.

In particular, it was decided to twin the 'yellow line' marked for safety on station platforms and the 'yellow line' that marks the boundaries of the basketball court. The awareness-raising campaign was entitled 'Don't go over the yellow line. Stay in the court' and the activities related to it were divided and continue to be divided into two main categories: producing and broadcasting a television advertisement and setting up itinerant playgrounds.

The ad was shot on 29 July 2013 at Firenze Santa Maria Novella railway station and involved players from the adult national basketball team as spokespersons. The ad was broadcast by Rai Sport and Sky in September 2013 during the European basketball championships for national teams.

The itinerant playgrounds, which will cover the entire country in several stages, are in the scheduling stage: the first stage was held in Bari (30 November 2013) and the others will follow in 2014, as areas granted locally become available. The playgrounds will be set up and managed with resources provided exclusively by ANSF, the Railway Police and FIP. For each stage, collaboration will be sought from time to time from the Regional Schools Office of MIUR [*Ministry for Education, Universities and Research*], for the involvement of schoolchildren, the host municipality and for the necessary provision of a square. The playground involves setting up an open-air village of inflatables including a basketball court. During the morning session, a team of organisers entertains schoolchildren (approximately 200 primary school children) with individual and team games involving boys and girls together (rules of behaviour and of the game). In the afternoon, however, mini-basketball competitions are held involving



local basketball clubs. Depending on availability, spokespersons from the world of basketball will also be present. The children's entertainment will also include visits to stands (ANSF, the Railway Police and FIP) where qualified staff from the three institutions will promote the principles of safety using audio-visual and other material. Substantially, it is a festival in the square, open of course to all local people, where the game is used to convey and disseminate the meaning of the rules, respect for which can be lifesaving in every area of life.

A similar initiative has been started with the Italian Rugby Federation and the practical launch of activities is due to take place during 2014.

B.2.2 Initiatives for the mitigation of maintenance problems

As regards aspects more closely linked to the railway operator activities, the Authority's institutional activities include statutory supervision of the maintenance activities as shown in paragraph B.3 below. In 2013 the activities performed by the Authority to pursue this primary target concerned further initiatives at national and international level.

Again in 2013 the Authority's modus operandi mainly involved requesting the Infrastructure Manager or the Railway Undertakings to make prompt interventions and subsequently checking that the operators had implemented them. The fact that no system of sanctions has yet been agreed needs to be taken into consideration.

In the case of events concerning which the Authority launched safety alerts, or received them from other national safety authorities, the Railway Undertakings were asked to perform checks that also involve the keepers of the vehicles and the entities in charge of maintenance.

The Authority has taken a position as a result of finding a lack of consistency regarding the management of freight wagon maintenance, with different frequencies and approaches to the rules for intervention. It has encouraged the railway operators (the Railway Undertakings operating services in Italy and the Infrastructure Manager) to make more informed and knowledgeable choices, emphasising their right to identify criteria for choosing vehicles that give better safety guarantees. Through this intervention it intended to draw the attention of its direct national contacts of the duties and responsibilities attributed to them by existing national and international regulations.

On the international level, the Authority asked all the relevant European bodies to make mandatory the criteria for the proper performance of vehicle maintenance (measures agreed by the Freight Wagon Task Force, activated after the Viareggio accident by the ERA) which continue to be able to be adopted on a voluntary basis. The Authority also formally requested support from the European Railway Agency (ERA) for greater harmonisation of maintenance rules at European level and for proposing an amendment to the current Technical Specification for Interoperability (TSI) for freight wagons and the international regulations on hazardous materials (RID) as regards the use of derailment detection devices. Also with regard to this measure, the national railway operators have been asked to assess whether it is appropriate – as those responsible for the safe operation of their part of the system – to select partners that have already agreed to adopt it.



B.2.3 Main strategies of the Authority's international activity

In accordance with the Ministry for Infrastructure and Transport's guidelines, in 2013 the Authority had dealings with the European Railway Agency (ERA) concerning railway safety and interoperability and agreed, with the Directorate General for Rail Transport to take part, at the ERA, in meetings concerning the following areas of activity:

- safety management system, supervisory and investigative activities, regulatory and monitoring activities;
- interoperability Technical Specification for Interoperability (infrastructure, energy, rolling stock, telematic applications, operations);
- mutual recognition;
- creation of common logs and databases;
- ERTMS (European Rail Traffic Management System) signalling system;
- Joint Network Secretariat ERA body for intervention on safety-related matters.

As regards safety, in particular, the Authority reported the critical areas and worked with the aforementioned Directorate General to form the Italian position in RISC (Railway Interoperability and Safety Committee), providing appropriate technical support to that body.

The Authority was also actively involved in cross audits between national safety authorities (NSAs), which aim to assess the compliance of each NSA with the provisions of Directive 2004/49/EU, and in seminars and workshop at the ERA, where it shared the problems that emerged from performing its own activity and explained the solutions adopted.

In all the bodies it participated in, the Authority pursued the adoption of harmonised common measures by all the national authorities, subject to the possibility of adopting emergency measures in the event of possible risk to safety. One example is the work performed as part of the task force set up following the Viareggio accident and on the Quick Response procedures to activate in the event of critical areas related to safety or transport efficiency (such as, for example, after an accident) in order to prevent the parties involved taking isolated decisions that might become an obstacle to interoperability, safety or the efficiency of railway transport.

In addition, as regards the Common Safety Targets (CST), the Authority wanted to put forward its own position in the light of the experiences of its early years, the discussions in the work groups and the conclusions of a task force set up specifically by the ERA (European Railway Agency) on this subject. The methodological criticism concentrated mainly on the pointlessness of setting as a target a number of victims of railway accidents taken from the historic trend of the railway accident rate. Every railway accident can cause victims and must be analysed to identify its causes and adopt provisions that are likely to prevent its recurrence. Calculating the damage/injuries after the event can be useful only to check the effectiveness of the provisions adopted and to identify any residual critical areas but definitely not to make acceptable a number of victims other than zero. On the other hand, a common European target centred on the gradual reduction of the causes of accidents may be necessary to reduce as well the probability of 'serious' accidents occurring and consequently victims.

As it is currently impossible to change the CSTs, the Authority asked for a review aimed at reducing the margins of tolerance (which theoretically make gradually worsening performance acceptable over time) used to check conformity with safety targets by each individual country. In a longer time scale, the Authority also asked that the current system for calculating the CSTs, based on the values recorded by each individual country, be changed to move towards a truly common target represented by the average value of the European countries so that the various approaches to



safety can be refined over time and to determine for less virtuous countries, shown by values above the mean value, the need to come into line with the others.

B.3 Review of the previous year

Below are details of the activities that the Authority performed during 2013 with the resources available and in accordance with the pre-set targets. For the report on the safety certification and authorisation for commissioning to service activity, please see part E. For details of the accident and incident analysis, see paragraph B.1 above and part C below.

B.3.1 Monitoring of activity of the Railway Operators following the reorganisation of regulations

Following the reorganisation of regulations, the Authority's activities on the regulatory front concentrated on monitoring the operating instructions and provisions issued by the Operators to regulate their internal processes and, in the case of the Infrastructure Manager, also the procedures for interfacing between its staff and those of the Railway Undertakings.

This monitoring activity, aimed at checking that the instructions issued by the operators are consistent with the safety principles, showed some critical areas right from the initial stages.

In 2013, 370 operating instructions and provisions from the railway operators were examined, 132 in the first half of the year and 238 in the second, making up 100% of those received. For the assessments of the activity, see part D below.

B.3.2 Training of staff with safety tasks

Correct, and continuing, training of staff is one of the pillars of safety, especially at a time when the EU directives have introduced innovations to the previous scenario.

In this context, the Authority issued 'Guidelines for the implementation of standards for certifying staff employed in safety-related activity' which harmonised national standards with the amended scenario set out in the EU directives.

The starting point was the Train Driver Directive 2007/59/EC (Certification of train drivers operating locomotives and trains on the railway system in the Community) incorporated in Italy with Legislative Decree No 247/2010. However, as it was also considered vital to regulate training for all other safety tasks, the principles of the Directive were agreed and contextualised with reference to all the activities.

In particular, the new regulatory framework not only updated the previous certification systems based on the Infrastructure Manager's instructions from the early 2000s, but also regulated the vehicle maintenance safety activity, which the Authority considered an important element on which railway safety is based. It made it mandatory to set up a certification system based on the principles of independence between the training and certification of skills and the definition of procedures ensuring the traceability of the process of certifying staff employed to maintain rolling stock safety devices.

In accordance with the aforementioned regulatory framework, in 2013 the Authority issued train drivers' licences (1737 licences issued; 4 train drivers' licences withdrawn), recognised instructors and examiners of staff with safety tasks for qualifications and exams (550 candidates assessed, 526 recognition certificates issued; 41 recognition certificates withdrawn) and had its representatives take part in 17 committees examining staff with safety tasks involved in operating incidents.



In addition, in December the Authority gave notification of a plan to align the requirements for assessing instructors and examiners of the 'Train driving' safety activity recognised before the Authority was set up. This plan will be implemented in the first half of 2014. This activity requires a one-day course and two days of exams for the renewal of the recognition certificate for 86 examiners of the 'Train driving' safety activity, with the aim of checking that the staff, who were issued with certificates under a different regulatory context, meet the requirements.

B.3.3 Inspection and controls of the Infrastructure Manager and Railway Undertakings activities

The Authority's inspection and control activity of the Railway Undertakings and the national Infrastructure Manager involved the following activities:

Inspection activity, understood as detailed non-reproducible checks on the individual elements of the railway system, divided into:

routine monitoring, which involves sample checks performed continuously, and specific inspections, which involve further examinations as a result of reports (including from the Railway Police), accidents and incidents, outcomes of monitoring activity and generally as a result of requirements not covered by routine monitoring;

audits, a systematic process concerning certified operators to establish to what extent policies, procedures and requirements have been fulfilled (document audits and audits in the field);

targeted checks on the accidents and incidents considered most significant, with the aim of promptly acquiring all information necessary to identify the cause of the event and so that the Authority or operators can adopt measures to help prevent the repetition of such events;

monitoring and analysis of accidents and incidents;

adoption of provisions regarding the operators involved, following analysis of the recommendations issued by the Directorate General of the Italian Railway Investigation Body, and monitoring of the implementation of such provisions.

In 2013, the following were performed:

127 audits, approximately 40% more than in 2012;

985 inspections, approximately 38% fewer than in 2012; during these inspections 10,293 checks were performed, approximately 5% more than in 2012;

145 targeted checks (almost the same as in 2012 – 142 checks).

The following were performed as part of the activity relating to the railway infrastructure, which concerned all RFI [*Italian Railway Network*] local structures (the 'Local Production Departments):

29 audits in the field (compared to 25 in 2012);

561 routine checks on points and track circuits (approximately 5% fewer than in 2012), out of a total of 3417 measurements performed (approximately 30% fewer than in 2012), during which 195 non-conformities were found (5.7% of measurements, compared with 10.8% in 2012). In detail, the following were performed:

2401 measurements on 218 points for track-related aspects, finding 168 nonconforming measurements (7%); in 2012, out of 3621 checks on 291 points, 428 nonconforming measurements were found (11.8%);

912 checks on 239 points for signalling-related factors, finding 23 non-conformities (2.5% of measurements); in 2012, out of 841 checks on 255 points, 56 non-conformities were found (6.7% of measurements);

104 checks on track circuits, with 4 non-conformities found (approximately 3.8% of measurements); in 2012, 60 track circuits were checked, with 6.7% of measurements being non-conforming;

inspections of 118 level crossings, during which 1529 checks were performed and 139 non-conformities found (approximately 9% of checks); checks on level crossing



functionality in 2013 were increased substantially compared to 2012 and are now part of routine monitoring.

8 tunnels were inspected (compared with 24 in 2012), and the following aspects were checked:

presence of the risk evaluation, which was found to have been done by RFI for all tunnels;

presence of the General Emergency Plan, which was missing for all the tunnels inspected;

presence of paths, which were all present;

presence of emergency lighting, which was found to be absent in 3 cases; in the other cases it was partially present or in the process of being produced;

presence of emergency communications and public address systems, which were found to be absent in 4 cases; in the other cases they were partially present or in the process of being produced;

presence of emergency signs, which were found to be completely absent in 3 cases; in the other cases they were partially present or in the process of being produced.

In addition, 12 engineering works other than tunnels were inspected to check that records were kept, the frequency of inspections, the availability of technical documentation and instruments and the accessibility of the structure for the planned checks. Over 705 km of line were covered on board trains to check the state of the track with the train in motion, the presence of vegetation by the side of the track, the visibility of signals, the presence of signs such as tables of distances, LXs, kilometre markers, the presence of material on the railway track and of parapets on bridges and viaducts; the functionality of signals and equipment and station and line subsystems was also checked. Controls were performed on the long welded rail, junctions, wooden sleepers and hazardous material depots.

The most critical aspects that emerged from all the activities performed on the infrastructure are reported below:

maintenance activities 'with a mandatory date', connected to operating safety, were not always completed;

maintenance work and work due to faults in the train movement protection systems could not always be traced;

management of notices of activity did not always comply with current procedures and neither did the management of the provisions adopted as a result of diagnostics findings; the information systems contained expired defect notices;

as regards the state of equipment, frequent cases were found of isolated welded joints with clear signs of uncontrolled wear; the constitution of the very long welded rail was rarely found on the rail traffic and secondary tracks and even on through tracks there were deficiencies in the constitution and inspection of the rail; checks on the correct horizontal-vertical alignment of the track were often not performed due to a lack of references or design documentation; many level crossings are frequently made and maintained not in conformity with the technical specifications; the maintenance of secondary and rail traffic tracks, including their points, is deficient especially where there are wooden sleepers; some types of safety systems, such as Hot Axle-Box detectors, were often out of service due to faults for prolonged periods of time and, on some stretches, these systems were not installed at the specified distances;

the process of managing hydrogeological risks is still not adequate, as regards operational activities, especially in adverse weather conditions, and as regards the performance of hydraulic compatibility activities;

the tunnels inspected often did not meet the minimum requirements of the Ministerial Decree of 28.10.2005 on tunnels and the risk analyses were not used by the local departments to adopt mitigation measures;

the process of managing and checking civil engineering structures is still not completely supervised in all aspects (documentation, training, instruments available,



frequency of planned inspections, checks performed when crossing property owned by third parties, etc.);

The performance and activation of changes to systems made by means of internal activities are not always supported by the development of the necessary design documentation and the change management process is not always implemented in a way consistent with the relevant regulatory framework;

in the performance of works the existing technical specifications are not always complied with and the roles and responsibilities of local department staff in managing activities performed by subcontractors are not always clear. The traceability of maintenance and rail traffic operations and of relations between maintenance workers and the rail traffic controller is not always guaranteed;

safety control and monitoring is not always performed fully and systematically and the review activity is also incomplete, including as regards managing non-conformities and corrective and preventive actions;

non-conformities, mainly concerning the shunting service and management of the safety documentation for interfaces, emerged in the management of relationships between RFI and the Railway Undertakings;

the safety documentation is not always updated, saved and filed;

audit and inspection activity performed in terminal depots for hazardous materials showed various critical points, especially concerning the specific training of staff and the adoption of precautionary measures when wagons with hazardous materials are stopped for longer than the scheduled period for the stop.

The following were performed on Railway Undertakings:

52 document audits on 33 Railway Undertakings (compared with 21 in 2012):

3 assessments for the issue of new Parts A and B certificates and 6 assessments to conclude the process of converting their safety certificates to the new Part A and Part B certificate;

29 assessments for the renewal of safety certificates with special requirements;

14 assessments to update safety certificates for line extensions or new services;

38 audits in the field, which involved 24 Railway Undertakings including Trenitalia (compared to 44 in 2012, which involved 26 Railway Undertakings including Trenitalia)

5299 routine checks (approximately 3% more than in 2012), during which 869 non-conformities were found, equal to 16% of all the checks performed (compared with 20% of non-conformities found during 2012). The detailed checks in 2013, reported below, can be compared only with the second half of 2012 when the same surveying methods were used:

1695 passenger vehicles without driver's cab; of these checks 311 had a nonconforming outcome, approximately 18%, compared with 16% of checks with a nonconforming outcome in the second half of 2012;

1617 freight vehicles (of which 357 used for the transport of hazardous materials); of these checks 166 had a non-conforming outcome, approximately 10%, compared with 7% of checks with a non-conforming outcome in the second half of 2012;

577 passenger vehicles with driver's cab; of these checks 206 had a non-conforming outcome, approximately 36%, the same percentage as in the second half of 2012;

185 vehicles with cab, not used for passenger transport; of these checks 73 had a non-conforming outcome, approximately 39%, compared with 61% of checks with a non-conforming outcome in the second half of 2012;

763 passenger vehicles checked in operation with escort; of these checks 103 had a non-conforming outcome, approximately 13%, compared with 23% of checks with a non-conforming outcome in the second half of 2012;

462 on staff responsible for the technical inspection of vehicles; of these checks 11 had a non-conforming outcome, approximately 2.4%, compared with 1.8% of checks with a non-conforming outcome in the second half of 2012.



In addition, campaigns of specific inspections on various areas were performed. The most important are listed below:

operations of the driving crew and train crewing;

functional efficiency and maintenance of the door systems;

management of shunting from and to junctions and of relationships between the Infrastructure Manager and the parties involved;

information declared by vehicle keepers and/or owners when registering these or amending the entry in the National Vehicle Register (NVR);

conformity with the load regulations of freight trains.

The main deficiencies that emerged from the document audits and audits in the field, of Railway Undertakings other than Trenitalia, were found in the following areas:

definition of the functions of an Entity in Charge of Maintenance (ECM), when the role is performed by the Railway Undertaking, and implementation of a structured maintenance system;

management of safety provisions in general and of vehicle maintenance in particular, in cases when the Entity in Charge of Maintenance is external to the Railway Undertaking, and control of risks linked to the provision of materials and services;

change management, including pursuant to EC Regulation 352/2009;

interface between operations and maintenance;

measurement of safety performance by means of appropriate indicators that enable the Railway Undertakings to keep under control the risks of their part of the system;

management review, in order to identify policies, targets and actions suitable to ensure the safety of railway operations;

control of external risks;

internal control system of safety performance;

staff competency management.

As regards the Railway Undertaking Trenitalia, deficiencies emerged especially in knowledge and implementation, in the local departments, of Safety Management System (SMS) procedures, leading to incomplete control of the processes; in addition, the internal control system often proved ineffective and inadequate for revealing major deficiencies. Among the operating processes, deficiencies emerged in the traceability of maintenance operations performed, in the management and analysis of anomalies and subsequent adoption of corrective measures, in the control of provisions in general and of maintenance in particular, and in the management and recording of competencies.

The main non-conformities found during the inspection monitoring activity of Railway Undertakings can be attributed to:

malfunction of the passenger boarding/alighting door systems;

irregularities in the lead sealing of the safety equipment override switch (CEA); unusual noise from the undercarriage.

The targeted checks conducted by the Authority concerned the most critical events by type of accident or by the severity of the possible consequences, including in conditions other than those that occurred, according to the following distribution of risk factors:

9% of cases linked to a human factor 'outside the railway system';

30% of cases linked to a human factor 'within the railway system';

16% of cases linked to infrastructure maintenance;

45% of cases linked to rolling stock maintenance.



B.4 Areas of interest for the coming year

Strengthening maintenance processes continues to be a priority for safety in terms of preventing accidents that can potentially lead to disastrous consequences and this applies both to the infrastructure and to the rolling stock.

The actions already set out in last year's Report are still valid and therefore the Railway Operators, in order to tend towards a zero accident rate, must achieve the target of maintaining and, where reasonably practical, constantly improving railway safety. In this context they must:

consolidate the monitoring of the maintenance processes for infrastructure and rolling stock, including in the management of these areas relations with third parties, including foreign parties, that perform this service;

strengthen the monitoring of staff, including organisation of the service, systematic control of the activities and, above all, training in safety skills and continuously updating these skills;

strengthen the technical structures in order to manage the risk evaluation processes in accordance with the EU Directives and the tasks necessary to implement the new reorganisation step, which started with the regulatory reorganisation, in order to combine the production requirements with the guarantee of maintaining the safety levels and conformity with the principles and recommendations issued by the Authority; maintain monitoring of the transport of hazardous materials in each of its stages, from consignment to terminalisation, for organising the service and the maintenance activities in order to go beyond the interests of the individual parties (for example, controls in the depots, stoppage areas and availability of sites suitable for repair works) and favour transport safety to consolidate the good results obtained in the last four years;

maximise the use of the available safety technologies ensuring their maintenance and availability, especially the Infrastructure Manager when the network safety technologies have been made with public funding.

In addition the Infrastructure Manager must:

guarantee greater efficiency and consistency in the maintenance of the track and related equipment and strengthen the structures designed to control the maintenance processes;

complete the process of reorganising its own structures and safety procedures;

complete the interface activities with external parties aimed at providing tunnels with external Emergency Plans;

strengthen monitoring activities and continue discussions with third parties regarding hydrogeological disturbances and intervene on the effects that can influence railway safety by means of adequate preventive actions, including the introduction of predictive technologies and restrictions to the operation of trains;

respond more promptly to Authority requests, especially as regards the transit of trains through stations and the mapping of collisions with persons on the network;

implement actions to strengthen safety at Level Crossings, as regards the technologies, discussions with third parties, adjustment of procedures in the event of operating in degraded mode, as well as continue with the programme for the elimination of level crossings;

eliminate all forms of intervention in the event of faults that are not managed in line with the agreed procedures including in cases when emergency intervention is needed.

The Authority's task in 2014 remains that of supervising the correct performance by the railway operators of their safety-related obligations and duties and of ensuring through certification, approval and regulation activity that products and operators enter the system in line with current safety requirements, maintaining the necessary flexibility to direct its own activity, when required, to cope with emerging critical areas.



PART C – DEVELOPMENTS IN SAFETY PERFORMANCE

C.1 Detailed analysis of the latest trends recorded

In the following table, the number of 'serious' accidents that occurred in 2013 is compared with the corresponding values for previous years, starting from 2005, the first year for which national data collected in conformity with the reference thresholds established in the aforementioned Annex I is available.

The source of this information for the national railway infrastructure is the Safety Database (BDS) held and populated by the Infrastructure Manager RFI pursuant to the governmental contract of lease (Ministry for Transport Decree No 138/T of 31 October 2000).

Number of serious accidents during the period 01/01/2005 – 31/12/2013									
ACCIDENTS	2005	2006	2007	2008	2009	2010	2011	2012	2013
Train collisions	5	4	4	2	3	2	6	7	4
of which trains colliding with obstructions	3	3	4	2	3	2	6	7	4
of which collisions between trains	2	1	0	0	0	0	0	0	0
Train derailments	6	11	8	8	5	3	4	5	6
Level crossing accidents	25	32	19	9	5	15	18	13	14
Accidents to persons caused by rolling stock in motion	90	76	83	79	74	80	78	80	73
Fires on rolling stock	Fires on rolling stock 4 4 4 2 0 0 1 2							2	
other types of accident (*)	4	5	3	3	7	3	2	1	1
TOTAL SERIOUS ACCIDENTS	134	132	121	103	94	103	108	107	100
(*) 'Other accidents' mean all accidents not included in the previous categories, such as derailments and collisions during shunting or of work equipment, spillage of hazardous materials, etc.									

The total number of accidents recorded in 2013, 100, is the second lowest value since 2005 (the lowest was recorded in 2009, the year of the Viareggio accident). The value in 2013 is below the average value of the period 2005-2012.

Between 2005 and 2013 total accidents fell by 25%. In 2013 the following increased by one each, compared to 2012: 'train derailments', 'level crossing accidents' and 'fires on rolling stock'. The percentage changes over the short term are affected by the fact that we are dealing with small numbers in absolute terms, which change by whole numbers. The analysis of these increments for each individual category of accidents, weighted for volume of traffic (per million of train kilometres), is shown below and provides data that is substantially in line with 2012.

The most frequent continue to be 'accidents to persons caused by rolling stock in motion' (73% of accidents in 2013, nearly 75% in 2012) and 'level crossing accidents' (14% of accidents in 2013, 12% last year).

The 2013 values for 'train derailments', 'fires on rolling stock' and 'level crossing accidents' show a unitary increment compared to 2012.



Overall fatalities and serious injuries from railway accidents divided by type of accident								
ACCIDENT TYPE	2006	2007	2008	2009	2010	2011	2012	2013
Train collisions	2	2	1	1	1	0	0	2
Train derailments	0	0	0	43	0	0	1	2
LX accidents	31	18	8	5	15	18	22	17
Accidents to persons caused by rolling stock in motion	80	83	83	74	85	81	84	75
Fires on rolling stock	0	0	0	0	0	0	0	0
Others	4	1	0	4	2	0	1	0
TOTAL	117	104	92	127	103	99	108	96

The total number of victims (fatalities + serious injuries) fell from 108 in 2012 to 96 in 2013, a reduction of more than 10%. In 2013, there was a decrease in the total number of fatalities and serious injuries compared to the previous two years, restoring the downward trend started in 2010 which stopped in 2012. Since 2005, only in 2008 was there a smaller number of victims.

The only components showing an increase are fatalities as a result of 'train collisions' (2 in a single accident on 18 February near Tirano, in which an articulated lorry plunged onto the railway track as a result of a road accident, making a collision between the train and the road vehicle inevitable) and serious injuries in 'train derailments' (2 serious injuries to staff of a derailed train near Cervaro due to a river flooding on 1 December). For the details of the other changes, see the analysis in Part C.

In the pie charts that follow the accidents are grouped according to the main cause, comparing the 2013 data with the 2012 data.



IT	EN
veicoli stradali su sede ferroviaria	road vehicles on the railway track
indebite presenze di pedoni	unauthorised presence of pedestrians
indebita salita o discesa da treni passeggeri in movimento	unauthorised boarding or alighting from passenger trains in motion
errata esecuzione procedure di esercizio/manovre	incorrect performance of operating/shunting procedures
dissesto idrogeologico	hydrogeological disturbance
atto vandalico-esterno	external act of vandalism
manutenzione	maintenance

The vast majority, 76% (in 2012 the value was approximately 74%) comes from unauthorised presence on, or crossing of, the railway track by pedestrians, including cases at level crossings. The percentage increase of this component is linked to a decrease of total accidents (-6.5%) that is greater than the decrease of accidents due to unauthorised crossing or presence of pedestrians (-3.8%).



The other causes of accidents are related to maintenance issues, the unauthorised presence of road vehicles on the railway track, the incorrect performance of operating or shunting procedures, hydrogeological disturbance, unauthorised boarding or alighting of passengers from trains in motion and the consequences of vandalism or thefts.

In 2012 we highlighted the two macro-areas where intervention is necessary:

On the one hand, events linked to the unauthorised presence on, or crossing of, railway tracks by pedestrians

On the other hand, all the remaining accidents that are more closely linked with technical aspects (for example, derailments or collisions), which, whilst resulting in a smaller percentage of victims, are also the types of event that can generate disastrous accidents (for example, the accident at Viareggio in June 2009). It is therefore necessary that the actions aimed at prevention continue and are improved.

As regards the first type of event, we note that, despite the decrease recorded in 2013 compared with 2012 (approximately 3.8% of accidents and 6% of victims), further initiatives need to be implemented to counter the unauthorised interaction between rail traffic and the persons accessing it.

As regards accidents closely related to the operation of the railway subsystems (infrastructure, superstructure, signalling and safety systems), we repeat that these are accidents the consequences of which may be catastrophic and therefore all possible prevention actions need to be implemented including for those types where the number of victims is low. The following graph shows how the main causes are distributed.



IT	EN
Problematiche connesse agli incidenti gravi al	Problems relating to serious accidents net of
netto delle indebite presenze di pedoni sulla sede	unauthorised presence of pedestrians on the
ferroviaria. Anno 2013	railway track. 2013
comportamenti indebiti esterni	unauthorised behaviour of external parties
manutenzione	maintenance
errata esecuzione procedure di	incorrect performance of operating/shunting
esercizio/manovre	procedures
dissesto idrogeologico	hydrogeological disturbance

The total number of such accidents fell by nearly 14%, from 28 'serious' accidents² in 2012 to 24 in 2013. When we analyse the other accident components, we find that

² N.B. The number given is a proportion of the 100 'serious' accidents that occurred in 2013 but its classification does not match the types of accidents identified in Annex I of Directive 2004/49/EC given in



when comparing 2012 and 2013, the number of accidents due to unauthorised behaviour by external parties³ increased from 9 to 10, while the number of incorrect performance of operating and shunting procedures stayed the same in terms of the absolute number of accidents (3) but increased in percentage terms (from 11% to 13%). All the other components fell both in terms of absolute numbers and as a percentage of the total. In 2012 maintenance issues were the main cause or contributory cause of this grouping of 'serious' accidents⁴, with values close to 39%. In 2013 the component related to maintenance issues of this grouping of serious accidents, although down on 2012 (the absolute number fell to 9 accidents compared to 11 in 2012), still accounts for 37.5%.

The values relating to total numbers of accidents and fatalities or serious injuries are analysed in absolute terms in paragraph B.3.4 above. Below we show the trend in the number of total serious accidents during the period 2005-2013, giving not only the absolute number of accidents, shown using histograms and values in figures, with two continuous lines, but also the trend in the number of accidents related to millions of train kilometres (MIn trkm) and its average value during the period considered.



IT	EN
Incidenti gravi ai sensi dell'All. I del DLGS	Serious accidents, pursuant to Annex I of
162/2007.	Legislative Decree 162/2007
Incidenti totali	Total accidents
numero incidenti / Mln trkm	number accidents / Mln trkm
numero incidenti	number accidents
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / Mln trkm 2005-
2012	2012

The changes in volume of traffic over the years are not so significant that they change the trend of accidents and consequences of accidents in absolute terms. These weighted values are more useful for comparison with the performance of other EU

³ 'Unauthorised behaviour by external parties' means unauthorised alighting from trains in motion, for example by activating the emergency handles, or crossings of level crossings, the unauthorised presence of road vehicles on the railway track, for example while the barriers are closing, or vandalism/thefts.

⁴ The numbers do not include 'serious' accidents related to the unauthorised presence of people on the railway track.

the table 'Number of serious accidents during the period 01/01/2005 - 31/12/2013' at the start of this paragraph.



countries. However, note that in 2013 there was an increase in the volume of traffic, which returned above 330 million train kilometres (331,630).

We now analyse in detail the components of the total number of fatalities and serious injuries during the period 2006-2013. The analysis takes account of the overall value of fatalities and serious injuries counting 1 fatality = 1 serious injury (we do not consider that it is useful to use the parameter of 1 fatality = 10 serious injuries) to provide the most comprehensive trend framework. In the interests of clarity we have used the categories of persons (Passengers, Railway staff and Other persons) as used in EUROSTAT statistics.

Fatalities and serious injuries from railway accidents divided by person categories								
Person categories	2006	2007	2008	2009	2010	2011	2012	2013
Passengers	19	14	9	15	13	4	8	4
Railway staff	14	7	9	12	10	1	8	4
Other persons	84	83	74	100	80	94	92	88
TOTAL	117	104	92	127	103	99	108	96

The values shown in the table for 2013 are all lower than in 2012, restoring the downward trend in the total number of fatalities and serious injuries from 2010 and 2011.

In a context of substantial reduction in victims of railway accidents, the values showing an increase are: fatalities resulting from 'train collisions' and serious injuries in 'train derailments'. The total number of victims of level crossing accidents fell from 22 to 17, but the component of serious injuries among level crossing users rose from 5 to 7 (the increase is also related to the victims of the accident on 7 November at Pontida, when an ambulance was hit by a train while it was crossing the level crossing with the barriers open and a line-clear signal). The number of fatalities among 'railway staff' in 'accidents to persons caused by rolling stock in motion' also increased, to two, (in both cases the people were hit when travelling to their work place) as did the number of serious injuries to 'other persons' (mainly connected to unauthorised crossing of the railway track).

The following figures show the trend of the three above-mentioned categories of persons and of their components, highlighting the values of each of them with respect to the most significant types of accident.

Figures 1, 3, 5 and 7 plot the trend in the total number of people who were injured or died following accidents occurring during the period 2005-2013, compared with the average value for the period 2005-2012 and with the average value for the last six-year period 2007-2012. This comparison is particularly significant as it generally shows a reduction in the number of victims compared with the previous years. Each figure plots the annual trend in the overall number of persons injured or killed with regard to a single category of persons (passengers in Figure 1, railway staff in Figure 3, other persons in Figure 5 and level crossing users in Figure 7).

Figures 2, 4 and 6 show the graphs relating to overall values of the victims, for each category of persons, and those relating to each individual accident type are also shown (train collisions, train derailments, level crossing accidents, accidents to persons caused by rolling stock in motion, fires on rolling stock and others). In order to make it easier to interpret the data in each figure, the accident types that did not cause death or serious injury to persons in the historic series have been removed from each figure. Figures 1 and 2 analyse the overall trend in the number of victims (fatalities and serious injuries) in the 'passengers' category. Figure 1 shows how the value for 2013 lies below



the average values shown and that 2013 equals the lowest value for the period, recorded in 2011.



IT	EN
Figura 1. Andamento del valore aggregato dei	Figure 1. Overall trend in fatalities and serious
morti e dei feriti gravi appartenenti alla categoria	injuries in the 'passengers' category during the
'passeggeri' nel periodo 2005-2013	period 2005-2013
valore aggregato morti + feriti gravi	fatalities + serious injuries total value
'passeggeri' somma di morti e feriti gravi	'passengers' sum of fatalities and serious injuries
valore medio 2005-2012 / 2007-2012	average value 2005-2012 / 2007-2012

In order to optimise the analysis of the trend of the individual accident components in Figure 2, the year 2005 was excluded because it has values higher than the remainder of the period. This figure shows a realignment to the longer-term trend and thus a reduction in victims related to the various accident components except for those related to 'accidents to persons caused by rolling stock in motion' which is at the same level as in 2012. See the analysis below concerning this type of accident.

As mentioned previously, the component of passengers who have been victims of train collisions since 2007 is zero.





IT	EN
Figura 2. Andamento aggregato dei morti e dei feriti gravi appartenenti alla categoria 'passeggeri' nel periodo 2006-2013. Scomposizione per principali tipologie di incidenti	Figure 2. Overall trend in fatalities and serious injuries in the 'passengers' category during the period 2006-2013. Breakdown by main accident types
valore aggregato morti + feriti gravi	Fatalities + serious injuries total value
collisioni di treni	Train collisions
deragliamenti di treni	Train derailments
incidenti alle persone per rotabili in movimento	Accidents to persons caused by rolling stock in motion
incidenti ai PL	LX accidents
TOTALE	TOTAL

Figures 3 and 4, on the other hand, analyse the overall trend in the number of victims (fatalities and serious injuries) in the 'railway staff' category, which also includes staff who operate on behalf of contractors.



IT	EN
Figura 3. Andamento del valore aggregato dei	Figure 3. Overall trend in fatalities and serious
personale' nel periodo 2005-2013.	2005-2013



'personale' somma di morti e feriti gravi	'staff' sum of fatalities and serious injuries
valore medio 2005-2012 / 2007-2012	average value 2005-2012 / 2007-2012

Figure 3 shows that there was a decrease in 2013 in the overall number of victims compared with the previous year, despite staying above the values for 2011 which had the lowest value of the period. This value lies below the average value of the period 2005-2012 and the period 2007-2012. The figure shows a see-sawing trend but with a reduction in the number of occurrences over the long term. Figure 4 shows that there was a general decrease in 2013 in victims except for 'train derailments' where there were two serious injuries connected to a single event caused by hydrogeological disturbance. As regards the component related to 'accidents to persons caused by rolling stock in motion' see the subsequent analysis of this type of accident.



IT	EN
Figura 4. Andamento aggregato dei morti e dei	Figure 4. Overall trend in fatalities and serious
feriti gravi appartenenti alla categoria 'personale'	injuries in the 'staff' category during the period
nel periodo 2005-2013. Scomposizione per	2005-2013. Breakdown by main accident types
principali tipologie di incidenti	
valore aggregato morti + feriti gravi	Fatalities + serious injuries total value
collisioni di treni	Train collisions
deragliamenti di treni	Train derailments
incidenti alle persone per rotabili in movimento	Accidents to persons caused by rolling stock in
	motion
altri tipi di incidenti	Other types of accident
incidenti ai PL	LX accidents
TOTALE	TOTAL

Figures 5 and 6 focus attention on the overall trend of the number of fatalities and serious injuries belonging to the 'other' (other types of person) category, which includes all the categories of persons not included in the two previous categories of 'passengers' and 'railway staff'. This category includes 'unauthorised persons', 'level crossing users' and all other persons not included in other categories as defined by Annex I of Legislative Decree No 162 of 10 August 2007.





IT	EN
Figura 5 Andamento del valore aggregato dei morti e dei feriti gravi appartenenti alla categoria 'altri' nel periodo 2005-2013	Figure 5. Overall trend in fatalities and serious injuries in the 'other' category during the period 2005-2013
'altri' somma di morti e feriti gravi	'other' sum of fatalities and serious injuries
valore medio 2005-2012 / 2007-2012	average value 2005-2012 / 2007-2012

Figure 5 shows that the average value for the entire period and the value for the last five-year period are almost the same. The year-on-year trend highlights how the phenomenon is influenced by unauthorised individual behaviour and by external factors that are not easy to manage. The year 2013 has values slightly above the two averages shown, although there is a fall in the overall number of victims, a trend that began in 2012, but marked by an increase in the number of fatalities.

As can be seen in Figure 6, the highest number of victims occurs in the 'accidents to persons caused by rolling stock in motion' category. The number of deaths as a result of 'train collisions' increased (2 in a single accident on 18 February near Tirano, in which an articulated lorry plunged onto the railway track following a road accident) so that a number other than zero is recorded in the category of persons classified as 'other' in the Common Safety Indicators and in Annex I of Legislative Decree No 162 of 10 August 2007 (there were no victims in this category in the accident at Viareggio in 2009). The component of victims in 'level crossing accidents' is the same as in 2012.





IT	EN
Figura 6. Andamento aggregato dei morti e dei feriti gravi appartenenti alla categoria 'altri' nel pariado 2005, 2013, Scomposizione par principali	Figure 6. Overall trend in fatalities and serious injuries in the 'other' category during the period
tipologie di incidenti	2005-2015. Breakdown by main accident types
valore aggregato morti + feriti gravi	Fatalities + serious injuries total value
collisioni di treni	Train collisions
deragliamenti di treni	Train derailments
incidenti ai PL	LX accidents
incidenti alle persone per rotabili in movimento	Accidents to persons caused by rolling stock in
	motion
TOTALE	TOTAL

In order to better analyse the problem of level crossing accidents, Figure 7 below focusses attention on level crossing accidents and on their consequences on 'level crossing users'. This indicator also shows a see-sawing trend during the period in question with the values of the last three years above the average value for the period 2007-2012 but in line with the average value for the period 2005-2012.

In the last two years there have been accidents with multiple victims. For the details and provisions adopted see below in the survey of level crossing accidents.

We now move on to analyse the individual components of the accident rate.





·	
	EN
Figura 7. Andamento del valore aggregato dei	Figure 7. Overall trend in fatalities and serious
morti e dei feriti gravi appartenenti alla categoria	injuries in the 'other' category during the period
faltri' nol poriodo 2005 2012 EOCUS augli	2005 2012 EOCUS on level crossing upper
	2003-2012. FOCOS ON level clossing users
Utilizzatori dei Passaggi a livello	
valore aggregato morti + feriti gravi	fatalities + serious injuries total value
'utenti dei passaggi a livello' somma di morti e feriti	'level crossing users' sum of fatalities and serious
gravi	injuries
valore medio 2005-2012 / 2007-2012	average value 2005-2012 / 2007-2012

In 2013 there was a decrease in 'train collisions', against the trend of the increases recorded in the previous two years, with values again below the average value for the period considered (2005-2012).





IT	EN
Incidenti gravi ai sensi dell'All. I del DLGS	Serious accidents, pursuant to Annex I of
162/2007.	Legislative Decree 162/2007
Collisioni di treni	Train collisions
numero incidenti / Mln trkm	number accidents / Mln trkm
numero incidenti	number accidents
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / Mln trkm 2005-
2012	2012

Separating the data concerning collisions between trains from that concerning collisions with other obstructions, since 2007 and including 2013, the number of collisions between trains is zero so since 2007 total collisions coincide with collisions with obstructions.



IT	EN
Incidenti gravi ai sensi dell'All. I del DIgs 162/2007 Collisioni dei treni. Andamento globale e confronto tra collisioni tra treni e collisioni contro ostacoli	Serious accidents, pursuant to Annex I of Legislative Decree 162/2007 Train collisions. Overall trend and comparison between collisions between trains and collisions
	with obstructions
numero incidenti	number accidents
collisioni di treni	train collisions
collisioni di treni contro ostacoli	trains colliding with obstructions
collisioni tra treni	collisions between trains

This result can be ascribed in large part to the adoption of train movement protection systems (SCMT [Cab signalling system], SSC [Drive aid system], ETCS (European Train Control System)) which has led to nearly 100% of kilometres travelled by trains being protected by these systems. The failure to achieve complete coverage of traffic is due to system malfunctions caused by faults.

Under the Regulation for the Running of Trains, the operation of trains not protected by safety systems is no longer permitted. Faults occurring during operations are regulated restrictively with rail traffic limited to only the journey required to reach the terminus station for the service, imposing a speed reduction and restrictions on interfering with the running of other trains. Faults with safety systems are kept constantly under observation by the Authority and account for approximately one in one thousand trains, a figure that is only apparently low considering that approximately 9000 trains run on the national network each day.

The following graph shows how the time period before all cabs were equipped with on-board subsystems coincides with the first period of the Authority's activity. During this



period the Authority encouraged the railway operators to comply with the specified time scales, through continuous controls and the introduction of progressive restrictions to the running of non-equipped trains.



ANSF

IT	EN
attrezzaggio delle cabine con sottosistemi di bordo	Equipment of cabs with on-board subsystems and
e marcia dei treni protetti da ATP	running of trains with ATP (Automatic Train
	Protection).
marcia protetta	Protected running
SCMT	SCMT
SSC	SSC
dicembre / giugno	December / June
ANSF	ANSF

The graph shows that, in June 2008, with the entire network equipped with train running protection systems (SCMT system on the basic network and SSC system on the complementary network), approximately 80% of vehicles with cabs were equipped with the corresponding SCMT on-board subsystem but no vehicles with cabs were equipped with the corresponding SSC on-board subsystem, showing a clear problem with scheduling and coordination between the activity of the Infrastructure Manager and that of the Railway Undertakings. Within just over three years, thanks to the Authority's action described above, it was possible to complete the equipping with on-board subsystems of vehicles with cabs, both as regards the SCMT system (yellow line) in use on the part of the network with most traffic excluding High Speed (HS), which was built with the ERTMS (European Rail Traffic Management System) system, and as regards the SSC system (blue line) in use on the part of the network with less traffic.

The 4 collisions of trains with obstructions in 2013 are:

collision with a TIR, which had fallen onto the railway track as a result of a road accident, near Tirano on 28/02;

collision with components that had detached from another train between S. Martino and Verona on 13/09, an event thus connected to maintenance issues;

collision with a landslide between Brunico and Perca on 11/05, connected to hydrogeological disturbances;



collision between the doors of a freight train opened as a result of theft and infrastructure components inside a tunnel between Ronco Scrivia and Mignanego on 26/03.

Of these accidents, the only one with victims (2 fatalities) is the Tirano one: the components of the TIR thrown out as a result of the accident fatally struck the TIR driver and a person standing on the roadway.

It is clear that the main cause of this accident can be attributed to road safety; however, rail traffic needs to be protected as much as possible from such risks. Therefore, on the basis of a previous survey of road vehicles falling onto the railway track (12/08/2013 Rometta Marea, 03/08/13 Macomer – Campeda, 11/02/12 Priverno – Monte San Biagio), RFI was asked to identify critical points for this problem (bridges or points where roads run parallel and close to the railway), to check with the bodies managing the roads that they are equipped with measures to contain road vehicles that are adequate for the characteristics of the traffic present and to equip the critical points with automatic systems to detect fallen vehicles. The Authority had asked RFI back in 2010 to intervene on this problem and also on the more general problem of detecting obstructions on the tracks but despite the requests no comprehensive response has yet been received.

The other recurring cause of trains colliding with obstructions with the possible consequence of derailment is hydrogeological disturbance. In this regard, since it acquired responsibilities over the Infrastructure Manager (January 2010), the Authority has asked RFI on several occasions to adopt mitigation measures but to date the matter cannot be considered concluded.

In particular, the Infrastructure Manager has been asked to:

map all the areas with hydrogeological risks and the corresponding monitoring systems installed;

align its database with those of ISPRA [Higher Institute for Environmental Protection and Research] and local authorities;

adopt safety precaution measures, if necessary imposing restrictions on the operation of trains to the extent of halting operation if there are severe weather warnings;

prepare a plan for organisational intervention or for investments aimed at improving safety levels, formulated on the basis of analysis performed as a result of acknowledging the state of the network;

communicate the results of the feasibility study on producing a plan to install hazard alarm sensors at those points that, from the hydrogeological risk evaluation, are shown to deserve specific and continuous monitoring activity, an aspect that was included in Directive 1/dir/2010.

In 2012 RFI responded that it had started an experiment in the Piedmont region with a procedure for 'Management of information and weather warnings issued by the Regional Alert System for Civil Protection and exceptional supervision activity at points at very high risk (VHR) concerning railway infrastructure'. The outcome is still being checked before being extended to the entire network.

More recently, following the weather-related events that hit Sardinia in November, the Authority again asked the Infrastructure Manager to intervene decisively with regard to the problem of hydrogeological disturbance, by starting a review of all the procedures and technologies it uses to deal with situations related to intense weather phenomena, providing an updated and comprehensive framework of the operating methods used to deal with and manage critical or potentially critical situations associated with intense weather events and of the instruments used to prevent them, providing evidence that it is fulfilling the instructions sent in 2012, making known the operating methods it intends to use to install monitoring systems for flooding described in the RFI Guidelines 'Procedures and interventions to protect the railway tracks from



hydrogeological disturbances' and to provide information about those that may be already in operation (numbers, location, functionality, feedback).

As regards the causes of the other two collisions, for one see the analysis of rolling stock maintenance problems, whereas for the other (collision between a door open as a result of theft and infrastructure) we need to highlight how deliberate external acts (vandalism, thefts, etc.) can be the source of serious accidents. We therefore need to maximise our efforts to achieve safety that combines protection of property with protecting railway operations from these hazards. The most useful tools for countering these events are vigilance and supervision, tasks for which the railway operators are responsible.

Below we show the trend of trains passing signals at danger (SPAD incidents), one of the main precursors of collisions between trains.

2013 marks the return to a reduction in accidents after a two-year period 2011-2012 marked by the growth in the number of accidents.



IT	EN
Andamento degli SPAD ne periodo 2000-2013	Trend of SPADs (Signal passed at danger) during
	the period 2000-2013
SPAD	SPAD
Partenza da fermo	Platform starting signal
In corsa	During travel

The SPADs have been divided into two categories, namely, those occurring at the 'platform starting signal' and those 'during travel'. The 'platform starting signal' SPADs are chiefly the result of a misunderstanding between the train driver and the train crew giving the 'ready to start' signal. SPADs 'during travel', on the other hand, occur on arrival at or passing through stations, and, on the basis of the outcomes of such incidents occurring during the period under review, represented the greater cause for concern before the installation of the train movement protection systems. In 2013, platform starting signal SPADs reduced significantly whereas SPADs during travel, or dynamic SPADs, continued to increase. In particular, SPADs due to misunderstandings between train drivers and train crew giving the ready to start signal after stops on passenger services decreased (these accounted for 50% of the SPADs in 2012). Among the SPADs related to the unauthorised overriding of the safety functions of technological systems by the driving crew, there was only one event (these accounted for approximately 20% of SPADs in 2012), which also led to the train driver, believing he had



seen a signal with the aspect red – yellow – yellow (line clear for the train with confirmation of a speed reduction to 30 km/h, which indicates a subsequent signal at stop at a short distance), intervened on his own initiative on the train movement protection system. Based on current regulations, overriding the safety functions of the train movement protection systems must always be authorised by the rail traffic controller (the traffic manager or traffic controller) who has the information that the track is clear. However, the Infrastructure Manager had suspended the application of this measure specifically in the case of 'passing a red light' when the signal has the aspect of red – yellow – yellow, considering it in this case to be excessively onerous for keeping rail traffic moving. The Authority intervened asking RFI to guarantee that in all conditions activation of the 'passing a red light' procedure should be related to authorisation by the rail traffic controller. The realignment of RFI operating instructions with the safety principles issued by the Authority occurred with the issue of RFI operating instructions the the issue of RFI operating instructions the traffic procedure is a red light' procedure with the issue of RFI operating instructions with the safety principles issued by the Authority occurred with the issue of RFI operating instructions the traffic procedure is principles issued by the Authority occurred with the issue of RFI operating instructions the traffic procedure is principles issued by the Authority occurred with the issue of RFI operating instructions the traffic procedure is principles issued by the Authority occurred with the issue of RFI operating instructions the principles issued by the Authority occurred with the issue of RFI operating instructions the principles issued by the Authority occurred with the issue of RFI operating instructions the principles issues of the principle

The incidence of another factor that influences the number of SPADs, the excessive reliance, while driving, on train movement protection systems, was also confirmed in 2013. In 2013 this problem concerned 38% of SPADs.

A latent problem in the system is the possibility that the driving crew improperly overrides the train movement protection system. To this end, the Authority specifically performed targeted inspections that revealed, with particular frequency, non-conformities on the safety seal placed to protect the safety equipment (CEA – ATP override switch) from unauthorised overriding. This evidence was the incentive for a specific reminder memo to all the Railway Undertakings. One of the 2012 SPADs occurred in a particular context as the train, which was running on the wrong track (on 27/03 at Racconigi), did not comply with the instruction to stop before the far points of the station. Based on the current regulatory framework, the train should not have been running in these conditions.

The figure below shows the trend of 'train derailments'. In this case too, in 2013 the number of accidents increased by one. This follows the trend in 2011 and 2012. However, the number of events is lower than the average value for the period under review. The further examinations of these events are, in some cases, still being performed but in 5 out of 6 accidents maintenance-related problems have been found. Three of the cases concern the infrastructure and two, the rolling stock. However, the sixth event, during which two members of the train crew were injured, was due to hydrogeological disturbance or rather to the track being flooded as a result of extremely heavy rain, a subject already covered.




IT	EN
Incidenti gravi ai sensi dell'All. I del DIgs 162/2007	Serious accidents, pursuant to Annex I of
	Train derailments
numero incidenti	number accidents
numero incidenti / Mln trkm	number accidents / Mln trkm
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / Mln trkm 2005-
2012	2012

In the three cases of derailments connected to infrastructure problems, in two cases superstructure defects were found and, in the other, the derailment was caused by maintenance work on the infrastructure, performed incorrectly, which led to route conditions inconsistent with the instructions received by the train.

As already indicated in the report concerning 2012, since the Authority acquired responsibilities on the subject in 2010, it has asked the Manager for greater supervision of infrastructure maintenance processes and especially of the railway superstructure. To encourage the Manager to pursue this aim, over the years, the Authority has performed many audits, inspections or direct checks following accidents. The many problems found concerning infrastructure maintenance management were then the subject of reports to the Manager and requests for prompt and precise corrections of the non-conformities found. The inspection activity performed by the Authority is, however, subsidiary to the internal controls that the Manager is required to perform as part of its own Safety Management System. The Authority has asked the Manager to adopt internal measures that enable it to check the validity of its maintenance operations, a maintenance policy calibrated with regard to the actual operation to which the infrastructure is subject (such as for example, special attention to tracks subject to major stresses) and continuous availability of mobile diagnostic tools to measure the characteristic data of the infrastructure. This policy, which was launched in previous years, should lead to major and more durable improvements in safety than those recorded in 2013.



Extending the analysis to accidents that are not classified as 'serious', but still the result of infrastructure maintenance deficiencies, two types of event can be identified. The first concerned the network with most traffic (including the HS network):

Date	Place	Description		
22/03/13	Ventimiglia	Derailment of train 86033		
19/06/13	Roma Tuscolana	Derailment of train 51075		
18/10/13	Morolo – Biv/Pc Sgurgola	Derailment of train 57350		
23/11/13	Ventimigl.P.Roja – Bivio Calandre	Derailment of train 48361		

There were fewer of these events than the five in 2012 and none of them occurred on a HS line. In three out of the four cases the train involved in the accident was a freight train. In two cases the problems were found in the border stretches. In particular, the 23/11 derailment occurred on a stretch contracted out on a concession basis by RFI to SNCF (French national rail company) the maintenance of which is the latter's responsibility. As stated in the 2012 document, these accidents are probably not related to the availability of maintenance resources as they occurred on lines of the network with much traffic. There is an improvement compared with 2012, highlighted also in the Authority's supervision activity as reported in paragraph 2.10, but there is still a need for the Network Manager to improve the organisational aspects of controls and therefore to perform maintenance operations more promptly; reviewing the organisational procedures is specifically part of the process for issuing the Network Manager's safety authorisation referred to previously.

The second type of event concerns cases that occurred on the secondary network with lower traffic volumes, concerning stretches of superstructure with wooden sleepers.

Date	Place	Description	
26/02/13	Milano Porta Genova	Derailment of train 10508	
02/04/13	Bra	Derailment of train 4372	

The derailment that occurred on 19/06 at Roma Tuscolana should be added to this list. It was included in the previous list because one of its features was the presence of damaged wooden sleepers. These events also require improved organisation, combined with a series of actions and extraordinary checks that the Network Manager has been asked to make. On 26/04/13 RFI reported that the extraordinary check of lines with wooden sleepers, aimed at adopting appropriate measures to guarantee safety of train movements and the systematic elimination of the defects found, had been completed and confirmed that the superstructure was in good condition. Following the 19/06 derailment at Roma Tuscolana, the Authority questioned the effectiveness of this extraordinary check which had been completed at the time of the accident. RFI responded that the maintenance state that was the cause of the accident was related to local critical areas of management and could not be generalised. However, it gave assurance that it would pursue an intense maintenance programme of the yards of the Rome district and of the network. In 2013 there were no derailments after the 19/06 one connected to these problems.

In 2013 there is still an issue of recurring accidents related not maintenance deficiencies but to the unauthorised and incorrect performance of maintenance to the infrastructure in the presence of trains (this analysis has also been extended to accidents not classified as 'serious'):



Date	Place	Description		
13/01/10	Viterbo Porta Romana	Hazardous collision between train 21946 and train 22161		
07/10/11	Eccellente marshalling point	Train 3672 forced open points to a position not consistent with the route to follow		
07/03/12	Boiano	Unauthorised re-opening of level crossings		
14/07/12	Lavino marshalling point	Derailment of train 2885		
15/03/13	Empoli	Unauthorised indication of clear line from a ground signal		
20/05/13	Chieti	Derailment of train 12090		

To resolve these problems, connected to the possibility, permitted under RFI procedures, of performing maintenance operations without any formalities and which cannot be considered to have been resolved, the Authority has repeatedly asked the Manager, most recently on the basis of the recommendations received from the Investigation Body following the Lavino accident, to guarantee adequate staff training and to check that its procedures comply with the safety principles issued by the Authority, that they are consistent with operating conditions and specify in which situations and conditions it is possible to maintain facilities in operation during maintenance operation is performed should be traceable and that it examines procedures with built-in fail-safe behaviour aimed at preventing maintenance staff from operating without the explicit consent of the rail traffic controller.

The two derailments related to vehicle maintenance problems, belonging respectively to the ERA precursor types 'damaged wheels' and 'damaged axles' are:

Date	Place	Description	Railway Undertaking	Vehicle keeper
06/05/13	Pc Vesuvio – Bivio Sarno	Derailment of train 2436 due to coated rim coming off.	Trenitalia	Trenitalia
25/06/13	Formia	Derailment of train 60629 due to broken axle journal	Trenitalia	SITFA

Following the 06/05 derailment, the Railway Undertaking concerned was asked to perform extraordinary checks of all vehicles of the same type with wheels with coated rim and at the workshops where the keying is done. Trenitalia performed a check of the maintenance facilities to identify all the wheels similar to those concerned by the rim that came off and arranged to have all those at risk replaced the first time they came into the workshop. Trenitalia also arranged for the gradual replacement of this type of wheel with monobloc wheels.

However, the Authority also asked Trenitalia to analyse any problems with other types of wheel with coated rim, specifically to prevent the same fault occurring in different contexts. Considering the possibility that the event could also occur on the equipment of other Railway Undertakings, the Authority considered it appropriate to inform the other Undertakings of what had occurred and asked them to check wheels with the same features, involving the entities in charge of maintenance if necessary.

In the 25/06 derailment, the axle of one of the derailed wagons was found to be broken, in particular the body of the axle-box of the set of wheels concerned was poorly lubricated and there were signs of fusion in the axle journal, caused by the overheating of the axle-box, and this caused the axle journal to break. Having analysed the potential repetition of the event, the Authority sent a Safety Alert through the special European Railway Authority (ERA) application and undertook to inform all the railway undertakings operating in Italy that they should accept wagons of the same type with the same keeper and ECM in their own trains only after receiving



traceable evidence from SIFTA SpA that all checks to prevent the repetition of a similar accident have been made.

An issue closely related to these accidents is the maintenance of rolling stock kept by foreign parties. In 2013 just one relevant case occurred in Italy:

Date	Place	Description	Owner
05/06/13	Cassano Spinola	Damage to the brake linkage on a wagon from abroad under a reliable inspection system	CTC

In this specific case the same precautions adopted following the 25/06 derailment at Formia were adopted and a Safety Alert was sent to inform all the Railway Undertakings operating in Italy that they should accept wagons of the same type with the same keeper and Entity in Charge of Maintenance in their own trains only after receiving traceable evidence that all checks to prevent the repetition of a similar accident have been made.

For the more general problem of the maintenance of freight wagons, with reference to the aspects connected to the free movement of wagons whose maintenance is entrusted to foreign parties, see paragraph 5 below.



The next figure shows the trend of level-crossing accidents.

IT	EN
Incidenti gravi ai sensi dell'All. I del DLGS	Serious accidents, pursuant to Annex I of
162/2007.	Legislative Decree 162/2007
Incidenti ai P.L.	LX accidents
numero incidenti / Mln trkm	number accidents / Mln trkm
numero incidenti	number accidents
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / Mln trkm 2005-
2012	2012



For this type of accidents, in 2013 the number was below the average value for the period 2005-2012, although it was higher than in 2012, and there was a reduction in victims (in 2012, 6 people died in a single accident at Rossano).

Of the 14 level crossing accidents in 2013, 13 occurred with the level crossing barriers closed, 9 of which involved pedestrians being hit (8 in 2012) and 4 involved trains colliding with road vehicles (5 in 2012).

In the accident on 07/11 near Pontida, the train hit an ambulance causing two fatalities and one serious injury among the occupants of the ambulance which had crossed the level crossing with the barriers open.

Based on the evidence available, this was due to an internal problem of the railway system (unauthorised activation of an assistance function of the equipment by railway staff), unlike the other 13 cases which were connected to violations or unauthorised behaviour by level crossing users. The Manager was therefore asked to perform some checks of whether the safety functions present at the location were consistent with what is required by the safety principles issued by the Authority and, in any case, to assess equipment solutions that eliminate or minimise the incidence or likelihood of the equipment being manoeuvred incorrectly.

Based on the recurrent causes of level crossing accidents, the actions to implement to mitigate this type of accident, already mentioned last year, remain valid:

Improving the awareness of road users when approaching a level crossing and with regard to the risks that are run in the event of improper use of the level crossing

Equipping level crossings with systems for detecting obstructions, that is, monitoring systems; these systems have been made mandatory for certain types of crossings

Limiting pedestrian access to the railway when level crossings are closed

Increasing the levels of safety in the use of level crossings operated by private parties Continuing the plan to eliminate level crossings.

With reference to the programme to eliminate level crossings we can confirm that the 18% reduction in the number of level crossings between 2005 and 2012 corresponds to a 44% reduction in 'serious' accidents between 2005 and 2013.



IT	EN
Soppressione passaggi a livello.	Elimination of level crossings
Numero dei passaggi a livello per km di linea	Number of level crossings per km of line
Passaggi a livello – 18% dal 2005 al 2012	Level crossings – 18% from 2005 to 2012
Incidenti 'gravi' – 44% dal 2005 al 2013	'Serious' accidents – 44% from 2005 to 2013



Rispetto al 1990 – 44%	Compared to 1990 – 44%
numero passaggi a livello per km di linea	number of level crossings per km of line
Incidenti ai passaggi a livello	Level crossing accidents
numero incidenti	number accidents
incidenti gravi	serious accidents
valore medio 2006-2012	average value 2006-2012

The next figure shows the trend of 'accidents to persons caused by rolling stock in motion'.



IT	EN
Incidenti gravi ai sensi dell'All. I del DLGS	Serious accidents, pursuant to Annex I of
162/2007.	Legislative Decree 162/2007
Incidenti alle persone provocati da materiale	Accidents to persons caused by rolling stock in
rotabile in movimento	motion
numero incidenti / Mln trkm	number accidents / MIn trkm
numero incidenti	number accidents
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / MIn trkm
2012	2005-2012
VALORE	VALUE

The cases are almost all due to collisions with persons improperly present on the railway track. This type could also include accidents in which persons were injured by parts protruding from railway vehicles or by elements detaching from them, collisions with railway staff or passengers falling when boarding or alighting from trains.

The number of accidents in 2013 equals the lowest value for the period, for 2009, and is below the average value for the period 2005-2012. The general trend of this accident component shows, however, substantial stasis of the values, which are in line with the average value for the period.

The interventions performed for this type of accident are shown below, divided into individual themes.

The first component to analyse is the data concerning 'passengers' involved in 'accidents to persons caused by rolling stock in motion' which refers essentially to events concerning persons boarding or alighting from the doors of passenger trains.





IT	EN
Andamento annuale del valore aggregato dei passeggeri morti e dei feriti gravi in incidenti alle persone provocati da materiale rotabile in movimento	Overall trend of passenger fatalities or serious injuries in accidents to persons caused by rolling stock in motion
numero morti + feriti gravi	number fatalities + serious injuries
passeggeri morti + feriti gravi	passenger fatalities + serious injuries
valore medio 2005-2012	average value 2005-2012

In 2013 there were 4 victims (2 fatalities and 2 serious injuries), similar values to those in 2012. The values for the last three years are significantly below the average value during the period 2005-2012. The events that occurred can mainly be attributed to improper behaviour by passengers who in some cases activated emergency handles to open doors and alighted from the train in motion or to passengers exiting through carriage windows.

However, the accident at Arezzo on 7 January 2013 was caused by design and maintenance problems concerning door locking devices. During this accident a passenger, believing that he had reached a station, opened the door while the train was stationary and alighted onto the railway track, where he was then hit by a train running on the adjacent track.

At the current stage, it is not possible to determine the nature of the fault that enabled the door to be opened but Trenitalia has started a series of changes.

As also shown by the 2013 accidents, the 2012 data has been confirmed with a 73% reduction in accidents since 2009, thanks to the introduction, imposed by the Authority since 2009, of devices to lock doors on a specific side, which centralise the door locking control in the driver's cab and allow the driver, during stopping of the train, to release only the doors on the side of the train served by the platform, thus allowing passengers to alight from or board the train only on the safe side.

However, there is still a residual accident rate related to improving the 'sensitivity' of the edges of some types of door (so that they are better at warning of the presence of a foreign body during closing), to raising the awareness of users so that they do not



behave rashly when trying to board or alight from trains when the latter are moving or preparing to move and, finally, to maintenance of the door system.

This last aspect is monitored continuously by the Authority's inspections of rolling stock in operation, an activity that requires a high number of sample checks in various contexts related to checking and maintaining vehicles. These include constant monitoring of the frequency of carriages with faulty doors.

The inspection activity confirmed a general problem relating to the high frequency of emergency handles for opening doors without seals and carriages with faulty doors (even though they are labelled and confirmed in the closed position), clearly highlighting that undertaking maintenance systems do not always restore the conditions for effective operation of the door system.

This evidence was the incentive for specific inspection activities and frequent recommendations to the undertakings aimed at leading operators back to strict and prompt compliance with current regulations for safe management of situations with damaged doors and for their maintenance.

However, it was clear from the inspection monitoring that during 2013 there was a reduction in the frequency of faulty doors in operation, which seems at the moment to support the idea that the actions performed are producing an improvement.

The percentage of carriages checked with at least one faulty door has dropped in percentage terms from approximately 7-8% (typical quarterly figure from the first quarter of 2011 to the first quarter of 2013) to percentages of approximately 2-3% (typical figure for the remaining quarters of 2013). These percentages refer to an average of approximately 600 carriages checked per quarter, with checks distributed evenly across the country and across railway undertakings and proportional to traffic volume.

However, with reference to the cultural aspect concerning users generally, the Authority has implemented important initiatives with the Railway Police, educational establishments and sports federations. These initiatives are described earlier in this report.

We now analyse details of the accidents leading to the death or injury of 'railway staff' operating in work sites. Particular attention is paid to collisions with railway staff, a type of accident closely connected to work site protection.

The safety of railway work sites has two aspects. The first, for which the Authority is responsible, relates to how such work interferes with the operation of trains. The second, meanwhile, is the responsibility of the Network Manager in its role as employer, for the safety of the work or for the strict protection from harm of operational staff and third parties.

As regards the safety aspects of railway operations for which the Authority is responsible, a survey performed in 2009 found that the accident rate values were higher than those in the main European countries.

In this context, in mid-2011, ANSF Decree 16/2010 came into force, which was incorporated in the regulatory reordering. It required infrastructure maintenance to be performed with no trains running, leading to the elimination of 'on sighting' protection of railway work sites and its replacement with the 'line interruption' system. In 2013 no events relating to this problem were recorded. However, on 17 July 2014 three workers died in a single accident between Falconara and Butera. The Authority therefore continues to monitor this type of event to check that the reduction in the accident rate continues over time.



Accidents at work sites that caused staff fatalities or serious injuries						
		Totals		In collisions		
	Accidents	Fatalities	Serious injuries	Accidents	Fatalities	Serious injuries
2005	4	3	3	3	2	1
2006	8	7	3	7	5	3
2007	3	1	2	2	1	1
2008	4	5	2	4	5	2
2009	8	3	6	3	3	1
2010	5	3	3	3	3	1
2011	1	1	0	1	1	0
2012	3	0	3	3	0	3
2013	0	0	0	0	0	0

The next graph, shown only to compare with last year, analyses the sole component of accidents at work sites included in the item 'accidents to persons caused by rolling stock in motion'. We found that, on the RFI network, the number of fatalities and serious injuries showed a see-sawing trend, with nearly the same values in 2010 as in 2009 and that 2013 had the lowest value for the period under review (0).



IT	EN	
Valore aggregato dei morti e dei feriti gravi occorsi in investimenti di personale operante in cantieri di lavoro ponderato per volumi di traffico (milioni di treni chilometro)	Overall value of fatalities and serious injuries resulting from collisions with staff working in work sites weighted for volume of traffic (per million of train kilometres)	
numero dei morti + feriti gravi / Mln trkm	number fatalities + serious injuries / Mln trkm	
morti + feriti gravi / mln trkm	fatalities + serious injuries / mln trkm	
valore medio 2006-2012	average value 2006-2012	



The Authority monitors shunting activity through its inspection activity and audits and through direct checks following accidents.

The supervision tools used by the Authority, over and above the number of serious accidents that occurred in this operating context, which fell compared to 2012, confirmed that there are not only professional shortcomings but also problems organising the activities and with accurate, detailed controls. The problems were connected on some occasions with interface problems as shunting is often performed by companies operating on behalf of the Railway Undertakings or the Infrastructure Manager.

In 2013 situations occurred that might have involved people on platforms and some accidents involving people standing beyond the yellow line, such as for example, in the collision at Priverno on 06/07/13.

The Authority has started precision checks of injuries to so-called external personnel to check whether there are cases of persons at a safe distance being involved in collisions due to slipstreams or air blasts caused by passing trains. This further examination is currently in progress. The Authority asked RFI, back in June 2012, to include the transit of trains on tracks adjacent to crowded platforms as one of the interface risks. Where it is not possible to prevent these potential conflicts, it should adopt measures that mitigate the risk. The analysis presented so far by RFI does not take account of potential crowding of platforms and is therefore not exhaustive. Following the Priverno collision, an analysis was also requested of the specific case and in particular of platforms with through tracks on both sides.

Another significant problem is that of collisions with pedestrians improperly present on the track. In 2013 this accounted for 76% of serious accidents and 81% of victims. RFI was asked to prepare a map of the specific risk, using reports from the Railway Undertakings and historical data, and to adopt appropriate measures to mitigate the risk, such as informing the people concerned and limiting access. RFI has launched a protocol with the undertakings to create the risk map but has not yet entered its own historical data. For the considerations regarding this see section B. The consideration last year on the excessively high number of this type of accidents is confirmed even if 2013 saw a slight reduction in the phenomenon.

The next figure moves to analysing the category of accidents caused by 'fires on rolling stock'. In 2013 there were two accidents which did not cause injury to persons. In view of the small number of this type of accidents, even though it increased by one, the value exceeded the average value for the period 2005-2012. However, the historical data for these events shows a limited number of cases which has fallen over the last 5 years.





IT	EN
Incidenti gravi ai sensi dell'All. I del DIgs 162/2007	Serious accidents, pursuant to Annex I of
	Legislative Decree 162/2007
Incidenti al materiale rotabile	Accidents to rolling stock
numero incidenti / Mln trkm	number accidents / MIn trkm
numero incidenti	number accidents
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / Mln trkm 2005-
2012	2012

This type of accident, connected mainly to maintenance problems, should not be underestimated because of the potential impact of even a single accident. To this end, the Authority has devoted many audits and inspections of the railway undertaking maintenance activities and in 2013 performed 19 direct checks following the same number of small fires on rolling stock. During the checks we also found that the maintenance activity was not perfectly in line with the operations to which the rolling stock was subjected.

The 'other types of accident' category contains all railway accidents that do not come under any of the other accident categories, such as for example derailments, collisions with a work vehicle, shunting or the spillage of hazardous materials. So the data concerning some of the events connected to the problem of the safety of work sites and shunting was added to this category, another part of which, however, comes under 'accidents to persons caused by rolling stock in motion' that involved 'railway staff' or staff operating on behalf of contractors.





IT	EN
Incidenti gravi ai sensi dell'All. I del DIgs 162/2007	Serious accidents, pursuant to Annex I of
	Legislative Decree 162/2007
Altri tipi di incidenti	Other types of accident
numero incidenti / Mln trkm	number accidents / MIn trkm
numero incidenti	number accidents
valore medio numero di incidenti / Mln trkm 2005-	average value number accidents / Mln trkm 2005-
2012	2012

As can be seen in the previous graph, in 2013 there was only one accident, a shunting impact against a turnout track. As regards the analysis of relative problems, reference is made to information already provided about shunting accidents.

This year as well, accident analysis is not limited to accidents classified as 'serious', but also covers accidents that have not had significant consequences but do constitute a potential source of risk. These accidents always refer to events in the safety database of RFI [the Italian Railway Network]. The number of accidents in 2013 decreased compared to 2012 and in any case a downwards trend in the long term may be noted.

One of the global accident factors the Authority focussed on concerns the release of hazardous materials, small spills of substances associated with loading problems or tanker defects, that had resulted in an upwards trend, culminating in peak values recorded in 2009. The graph below shows a reversal in the trend was recorded in 2010, which appears to be confirmed in 2013, as this year recorded the lowest figure for the period.





IT	EN	
Andamento del numero degli incidenti e degli inconvenienti interessanti il trasporto di merci pericolose collegati a problematiche di carico o a difetti delle strutture dei container.	Trend of the number of accidents and incidents involving the transport of hazardous materials associated with loading problems or structural container defects.	
andamento fuoriuscita merci pericolose	trend of the release of hazardous materials	
valore medio 2005-2012	average value 2005-2012	

In 2009, 19 out of 52 events referred to transport originating from abroad and of those events, 8 out of 19 were recorded on the Italian border.

Spillages recorded in 2013 were nearly 85% down on figures for 2009 and were all identified during the technical inspection of vehicles and so before the trains were operated.

Two types of measures made it possible to reduce these types of events:

for national traffic, in conjunction with the competent authority for the transport of hazardous materials, the traceability of specific controls at points of origin of transport was established;

for international traffic, the Authority required Railway Undertakings to perform additional controls at borders in order to identify wagons with defects before their entry on the Italian network.

The analysis conducted in previous years on the effectiveness of measures adopted and in particular of border controls required by the Authority, and indirectly, of prevention activities performed in Italy is confirmed.

Another area in which a number of incidents and some accidents occurred was longdistance, high-speed passenger services, including HS services. This trend has been monitored by the Authority since 2011, considering the innovative nature of the service, the high speeds and, as from 2012, the presence of a new operator with new rolling stock and which is not part of the FS Group [Italian State Railways Group], with potential interface difficulties.

During 2013, over 720 events occurred in this area of service, up by approximately 7% compared to the 670 events recorded in 2012, which is in line with the figure for traffic, which went up by 7% in 2013 compared to 2012.



Only 2% of the events may be classified as 'serious' accidents (all concerning collisions with persons), or minor accidents (22% in 2013 and 23% in 2012) while the majority of the events (76% in 2013 and 75% in 2012) refer to operating incidents that had no impact on safety.

Most of the events were associated with factors external to railway operation (54.7%, while this figure was approximately 43% in 2012), followed by maintenance problems concerning rolling stock or infrastructure (42.6%; approximately 54% in 2012), and lastly by operating problems, which accounted for around 3.5%.

In 2013, in particular, problems relating to the maintenance of rolling stock increased. Evaluations of each case may vary and consequently necessary countermeasures may differ. However, considering the increase in the traffic volumes of these types of service and their particular operating nature associated with high speeds, and consequent stress on ground and on-board components, the Authority considered it appropriate to address the issue through a number of measures. Between the end of 2012 and 2013, it conducted audits on NTV and on the Freccia Rossa and Freccia Argento services of Trenitalia, it performed targeted controls on the main issues identified and set up a consultation group with the various operators involved to promote the adoption of solutions for recurrent problems. The problem of conflict between railway operators in the case of accidents and incidents, already identified by the Authority in the past, still exists when cooperation is poor, and in some cases where there is a lack of communication, which makes it hard to identify the causes of the event.

Another issue tackled by the Authority since it was assigned the oversight of railway infrastructure concerns systems to protect infrastructure from interface risks arising from the activity of railway operators other than the network operator. The Authority Directive 1/dir/2010 of 22 February 2010 on obligations of the RFI Infrastructure Manager regarding rail traffic safety and activities necessary for issue of the Safety Authorisation required the Manager to adopt technological systems to protect traffic, and in particular:

The mapping of the hot axle box detector (HABD) system, a report on incidents and faults concerning systems and any maintenance criticalities, a programme to install additional systems on the network.

And a programme to install dynamic weighing systems and multi-function gantries.

While monitoring the progress of obligations as of the Directive 1/dir/2010, difficulties, also of an economic nature, were identified. A permanent consultation group was therefore set up, to determine investment priorities among organisations that, institutionally, have responsibility in different roles (control and oversight, Programme Contract and Service Contract client, FS Group shareholder) (Ministry for the Economy and Finance, Directorate Generals of the Ministry for Infrastructure and Transport concerned, the Authority). The activity of the group, which was set up in January 2010 by the Cabinet of the Ministry for Infrastructure and Transport mainly focuses on: the upgrading of tunnels in order to meet requirements of the Ministerial Decree of 28/10/2005 on tunnel safety, the installation of multi-function gantries and hot axle box detectors, dynamic weighing systems and technological equipment of regional networks in order to enable the handover of responsibilities to the Authority.

As part of the process to issue safety authorisation to RFI, the need for further investigation into the development of these systems was identified.

At present, the multi-function gantries are still being designed, based on functional specifications dating from 2011 for the detection of fire on board trains and of loads above the maximum clearance gauge with indication only of their installation position. The dynamic weights, installed at Verona Quadrante Europa and Domodossola, have not yet been operated (planned to start before the end of 2013).



As regards the HABDs, RFI was requested to verify the operation of all systems installed on the network, adopt measures to guarantee their correct operation and evaluate the effectiveness of existing maintenance procedures to ensure their availability. The verification of operating conditions follows on from the outcome of inspections and analysis of some accidents and in particular the derailment of train 60629, at Formia on 25/06, which had passed an HABD just a few kilometres before derailing, which could have recorded the axle box overheating, but has been out of use for more than a month due to failure.

As regards the other indicators in Annex I to Legislative Decree No 162 of 10 August 2007, the following is reported:

The figures for 'damaged wheels' and 'damaged axles' in 2012, after a comparison with railway undertakings to clarify relative definitions, were corrected (2 wheels damaged and 1 axle damaged) bringing them in line with previous years and with 2013 (1 wheel damaged and 1 axle damaged).

The figures for 'track buckling' (formerly track defects) and 'damaged rails' in 2013 referred to 338 and 1613 events respectively; the first figure records a unit increase compared to 2012 (337 events), while the second records a decrease of 18.6% compared to the previous year;

The evaluation of accident costs can still not be considered as entirely reliable, but shows that figures for the last two years are more reliable compared to previous years. In 2013, costs, net of the economic quantification of accident victims, decreased by 9%. Environmental damage was not reported in 2013.

As regards the figures for audits conducted in 2013, a decrease of 13.7% was recorded compared to the previous year, while the percentage of audits conducted for programmes went up from 88.6% to 89.5%; this figure is affected by the reduction in RFI audits (approximately 100 less than 2012) and in Trenitalia audits (approximately 400 less than 2012); in 2013 Trenitalia was requested to guarantee a greater effectiveness of its own audit activities.

C.2 Results of safety recommendations

The Authority, in compliance with Article 24, paragraph 2 of Legislative Decree No 162 of 10 August 2007, duly considers the safety recommendations issued by the Italian Investigation Body (Directorate General of the Italian Railway Investigation Body of the Ministry for Infrastructure and Transport) and operates so that these recommendations form the basis for concrete measures, if it has not already taken action of its own initiative, based on elements available prior to the recommendations being issued.

Moreover, in compliance with paragraph 3 of the above article, the Authority notifies the Investigation Body, at least once a year, of measures adopted or planned, as regards recommendations issued.

In 2013, the Directorate General of the Italian railway investigation body formulated, inter alia, some further recommendations (in addition to those of 2012), following additions made to the report investigating the accident at Viareggio on 29 June 2009, relating to the gradual and targeted replacement of curve markers or, alternatively, their protection and an overall evaluation of the potential risk of their becoming a cutting or tearing element with equipment or infrastructure that may be technically eliminated or substituted. After these recommendations were issued, the Authority instructed the Manager to implement them when renewing the superstructure as regards the replacement or protection of markers and to focus its risk assessment on the definition of a proposal to include in the revision of the interoperability technical specification relating to infrastructure.

The recommendations received are indicated below.



Safety recommendation	Recommendations of the DGIF [Directorate General of the Italian railway investigation body] on the derailment of train 2885 of Trenitalia occurring on 14 July 2012 at the Lavino (Bologna) marshalling point.
	Pacampandations to ANISE
	Recommendations to ANSE
	Familiarises its own organisation and statt concerned with provisions on the
	maintenance of field equipment, especially with regard, where necessary,
	due to the special nature of work, to halting operation on the route
	underaoina maintenance work and consequently that it instructs staff
	assigned to maintenance work to strictly follow the Maintenance
	Management System The Maintenance Management System should
	Management system. The Maintenance Management system should
	include operating methods that are consistent with the conditions of use of
	the intrastructure and systems and should make clear under what
	restrictions operations may continue in relation to the various types of
	maintenance. The aim of this is also to have evidence and traceability of
	the operating conditions under which each maintenance operation is
	performed.
	Devises a procedure that is self-protecting and thus fail-safe, aimed at
	proventing staff performing maintenance exercises from exercises
	preventing sign performing maintenance operations from operating
	without the explicit consent of the traffic Controller, with particular
	reference to unmanned operating posts.
Safety measure	With the memo ANSF 6509/2013 of 11/09/2013 and reminder issued with the
	memo ANSF 003163/14 of 06/05/2014, requests already made to RFI in
	previous memos concerning the same matter, were issued again and
	specifically:
	That its staff are adeauately trained and familiarised with procedures issued
	for maintenance work
	That procedures are verified to ensure conformity to the provisions of the
	Regulation for the Dunning of Trains (points 4.22 and 22) in line with
	Regulation for the Running of Irains (points 4.32 and 22), in the with
	operating conditions and the intrastructure and systems and that situations
	and conditions in which systems may be kept operating during
	maintenance are indicated (this is only possible if a risk evaluation is
	conducted).
	That the traceability of operating conditions in which each maintenance
	operation is performed is guaranteed.
	That intrinsic safety procedures are studied to prevent maintenance
	engineers operating without the consent of the undertaking that manages
	traffic
	Thet are address are required to encorrentee that the abusical status of
	indi procedures dre regulared to guarantee indi the physical status of
	equipment, at the end of maintenance operations, is consistent with
	detection by the system, in compliance with the provision in
	paragraph 4.32 of the Regulation for the Running of Trains.
Implementation	RFI has still not replied about this matter.
status	
Safety	Recommendations of the DGIF relating to the loss during travel of a door of
recommendation	the car of train 9482 of 27/02/2012 of the Railway Undertaking Trenitalia, on
	the Perma Eiropte DD line along the section 1st Pivic Chiusi Sud 1st Pivic
	i ne koma-rijenze dd ine, along ne secilon i si bivio Chiusi sua – i si bivio
	Chiusi Nord.
	Chiusi Nord. Recommendations to ANSE
	Chiusi Nord. <u>Recommendations to ANSF</u> Take action so that the Railway Undertaking Trenitalia S p.A.:
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	Chiusi Nord. <u>Recommendations to ANSF</u> Take action so that the Railway Undertaking Trenitalia S.p.A.: Reorganises documentation management procedures, introducing a communication protocol for its own suppliers, to verify documentation
	Chiusi Nord. <u>Recommendations to ANSF</u> Take action so that the Railway Undertaking Trenitalia S.p.A.: Reorganises documentation management procedures, introducing a communication protocol for its own suppliers, to verify documentation updates and amendments, concerning projects and maintenance.
	Chiusi Nord. <u>Recommendations to ANSF</u> Take action so that the Railway Undertaking Trenitalia S.p.A.: Reorganises documentation management procedures, introducing a communication protocol for its own suppliers, to verify documentation updates and amendments, concerning projects and maintenance. Adopts measures to amend or improve its control system procedures, used
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	Chiusi Nord. <u>Recommendations to ANSF</u> Take action so that the Railway Undertaking Trenitalia S.p.A.: Reorganises documentation management procedures, introducing a communication protocol for its own suppliers, to verify documentation updates and amendments, concerning projects and maintenance. Adopts measures to amend or improve its control system procedures, used by its technical staff for checks on the completion of works which are performed in-house or are outsourced; these procedures should be based on preparing and using a specific checklist. Plans action to reorganise archived technical documentation, especially for documentation concerning safety-related components. Promptly amend in accordance with existing provisions or regulations, the



	closure, information which is not used for door locking control), ensuring that the centralised control of door conditions also uses this information to give the signal that the doors have been locked on the train driver's control desk. Ensures continuity in training and updating train crew competencies, with regard to methods for the timely and immediately effective use of devices provided to signal emergencies. The above should take place ensuring prompt updates when provisions are issued by the Infrastructure Manager regarding the use of the GSM-R (Global System for Mobile Communications – Railways) network. Guarantees, when servicing safety-related components, the use of qualified labour and original spare parts or parts equivalent to original spare parts. Take action so that the Infrastructure Manager RFI S.p.A.:
	Prepares and implements a plan to measure and verity GSM-R coverage of the network and, where necessary, prepares improvement actions, especially along routes with tunnels.
Safety measure	With the memo ANSF 5469/2013 of 19/07/2013, the Railway Undertaking
	was requested to:
	chronologically sort documentation, making it possible to manage updates and amendments;
	introduce a procedure to verify work, performed both in-house and
	outsourced, adopting a checklist system as necessary;
	reorganise archive documentation, particularly concerning satety-related components of rolling stock, of which it is an Entity in Charge of Maintenance (ECM);
	notify the state of the art of the modification of the door locking control
	system, also making available information about the presence of the door leaf to the driving crew and producing the relative hazard log according to Regulation 352/2009:
	evaluate the supplementation of Accompanying Train Crew training forms according to the competencies required in attachment 2 of the Staff Qualification Standard, issued with Decree No 4/2012 of the Authority, in particular as regards emergency management; monitor activities so that safety company of rolling stack are serviced
	by qualified staff, using original spare parts or parts equivalent to original spare parts.
	The Railway Manager was instead requested to notify the current state of the art of GSM-R coverage and future development plans.
Implementation	With the memo RFI-SDR\A0011\P\2013\0001962 of 23/07/2013, the
status	development plans established and scheduling the completion of relative activities for the end of 2015.
	With the memo TRNIT-DT\P\2014\0018706 of 07/04/2014 Trenitalia notified
	the measures it has adopted regarding maintenance and the contracting
	out of relative services and technological changes.
Safety	Recommendations of the DGIF relating to the railway accident occurring
recommendation	on 26/04/2012 at the Roma Termini station.
	Recommendation to ANSF
	Follow up for the urgent Recommendation No 1 as of the memo 158
	DGIF/DIVZ Of 30/04/2012. Recommendation No.2: check that the Infrastructure Manager undertakes
	to complete detailed analysis of the maintenance status of the entire
	infrastructure system of Roma Termini station to restore optimal conditions
	of the superstructure as specified in the emergency recommendation
	issued on 30/04/2012, or to ascertain that the Infrastructure Manager has
	Recommendation No. 3: check what actions the Infrastructure Manager
	has taken, if any, to check the maintenance status of switch points of the



Safety measure	entire national railway network. Recommendation No 4: examine the effectiveness of procedures implemented by RFI to perform exhaustive, systematic and traceable checks of the operational suitability of the track equipment and to check which procedures are being adopted or have already been adopted to achieve the objective of ensuring implementation of traffic safety. The above shall be aimed in particular at checking the effectiveness of scheduling procedures and subsequent performance of all necessary interventions, including any replacement of the switch blade-stock rail mechanical pair where raised sections are found on these elements or other signs of wear on the switch points. As a result of recommendations 2 and 3, this Authority, with the memo ANSF 6850/2013 of 25/09/2013 requested the outcomes of the non-routine inspection at all areas of the Italian Railway Network. As a result of recommendation 4, in the same memo the Manager was requested to verify the validity of procedures adopted to identify geometric irregularities
	(steps and/or raised sections in switch blade-stock rail mechanical pairs).
Implementation status	With the memo RFI-SDR\A0011\P\2013\0001032 of 21/10/2013, the Manager notified that it had completed the non-routine inspection at the Roma Termini facility. As regards recommendation 3, RFI notified that it had started inspections, using specialist, departmental teams. As regards recommendation 4, the Manager stated that the maintenance procedures and procedures for identifying defects that it adopts conform to European standards. The Manager also notified that it has formulated more detailed regulations for the characteristic geometric measurements of switch points, the effectiveness of which has been inspected since 2012 with team activities, and which should have been issued for trials at the start of this year. With the memo ANSF 08821/12 of 14/11/2012, the Authority notified RFI that there was no evidence of risk analyses, necessary in the light of the applicable national and international legal framework (Regulation 352/2009), as the experimental Technical Instruction introduces a number of new aspects in relation to pre-existing laws, that comprise a technical/operating modification to the railway system. RFI was also requested, based on the risk evaluation, to define the duration of objectives and measurement and evaluation criteria of trial stage outcomes, also by monitoring specific elements. RFI requested various extensions to start the trial application of the Instruction because of the difficulty of completing the supply of FS07 gauges at facilities and subsequently, because of a change that had to be made to the gauge during the supply, the last extension notified by RFI to
	begin the trial was given, starting from 01/01/2015.
Safety recommendation	Recommendation of the DGIF relating to the derailment of train 57369 occurring on 31/03/2012 at the Policastro Bussentino station. <u>Recommendations to ANSF</u> Promote activity by the IM, so that the areas identified where trains can stop in the event of a hot axle box selective alarm, in order for the driving crew to perform technical investigations safely, are adequate in terms of size, establishing, where necessary, the minimum requirements for this purpose, including the accessibility of the location and visibility conditions. Promote the following initiatives taken by the IM and for RUs, to ensure that the thermal conditions recorded when axle boxes are monitored is as free as possible from subjective interpretation. Continuity in the training and updating of competencies of on-board staff assigned to inspecting and recording the thermal conditions of the axle boxes, concerning methods for performing inspections, taking account of feedback from previous episodes. Amend form M40 RTB, annexed to Provision No 48/2001 concerning 'Regulations for the operation of hot axle box detection (HABD) systems',



	inserting special boxes to record the temperatures recorded by the HABD system following an absolute and/or relative selective alarm (measurements made available to the Control Centre). Provision to the driving crews of trains operating on railway lines equipped with HABD systems of appropriate heat detection instruments, which are necessary for judging objectively whether it is appropriate to allow the train to continue or not. Raise the awareness of RUs so that they undertake to appropriately supplement existing detailed procedures, issued pursuant to Article 1 (8) of Provision No 48/2001, so that the following can be unequivocally shown: The technical instruments provided. The maximum temperatures, by type of material, beyond which the material concerned must be removed from service. Promote specific actions, intended to check freight trains, to achieve a greater level of reliability concerning the actual weight of the freight load transported, also in relation to the maximum permissible axle load. Require compliance with provisions regulating methods for performing a shunting movement of a train without a train conductor in an unmanned station managed remotely, as in the specific case of reversing movements. It should also assess any actions to improve the provisions.
Safety measure	With the memo ANSF 7300/2013 of 15/10/2013, the Manager was requested to: Implement recommendation 1, establishing a programme to verify the suitability and accessibility of areas set up to inspect rolling stock following the alarm of a hot axle box detector, indicating that the axle boxes must be placed next to the ground detectors. Implement recommendation 2, training and updating its staff on the maintenance of ground HATB equipment, to prevent prolonged periods of inefficiency, and introduce, in a traceable way, the temperature value detected by the system in documents (hard and/or soft copies) transmitting alarms to traffic controllers and to the train crew involved.
	In the same memo, Railway Undertakings were requested to: implement recommendation 2, giving driving crew portable equipment to objectively record the temperature of axle boxes and provide focussed training on the value and methodology of recording temperatures with this equipment; implement recommendation 3, establishing operating procedures that regulate the actions that staff shall take and which indicate the temperature thresholds that differ by criticality levels; implement recommendation 4, improving activities to inspect goods trains, to reach a more specific determination of the load of transported goods; implement recommendation 5, revising provisions regulating the operation and requiring staff to comply further with regulations, with particular reference to the shunting movement without the conductor in areas that
Implementation status	With the memo RFI-SDR\A0011\P\2014\0000835 of 01/04/2014, RFI notified that it had completed inspections on the suitability and accessibility of areas set up to inspect rolling stock and verified the successful outcome of these inspections. With the same memo, RFI also undertook to maintain the accessibility of the above areas. Implementing recommendation 2 and with the memo RFI-SDR\A0011\P\2014\000290 of 04/02/2014, (reference ANSF 7908/13 of 05/11/2013), RFI notified that it had evaluated and traced training effectiveness by conducting surveillance audits, during which the correct application of safety procedures adopted by staff in all cases or alarms/failure of axle box equipment occurring was verified, and held practical drills (breakdown simulations) during the maintenance of operating staff competencies. Only some railway undertakings informed the Authority that they had adopted specific measures.

Safety	Recommendation of the DGIF relating to the accidents occurring on
recommendation	21/09/2012 on the Bari S. Spirito-Bari route of the Parco Nord Termoli-Bari
	C.le line, at the level crossing located at the 640+122 km marker and on
	24/09/2012 on the Cisternino-Ostuni route of the Bari C.le-Lecce line at the
	level crossing located at the 710+403 km marker.
	Recommendation to ANSF
	Considering Recommendation No 1 already issued on 26/11/2012 (see
	memo DGIF/DIV2/393/2012/7.1-9/Uscita) and any initiatives already
	appropriately taken, inform the DGIF of actions that will be taken, in
	conformity to these recommendations.
	Recommendation No 2: the IM will evaluate how to guarantee an
	advance warning period (time between the red light of the colour-light
	signal coming on and the barriers starting to lower) at level crossings, which
	takes account of:
	situations that might affect the movement of road vehicles (for example
	the presence of road junctions near the level crossing);
	the length of vehicles permitted on the roads;
	the actual distance between the entry and exit barriers calculated
	according to the direction of movement of road vehicles.
	Considering the current criteria in use by the IM, a minimum warning period
	of:
	five seconds, for roads with a restriction on vehicles more than 11 metres
	long;
	seven seconds for rodas with no limit to the length of vehicles, should be
	evaluatea for all level crossings.
	we recommend assessing whether to increase these minimum times in
	specific cases (such as, for example, where the level crossings are near
	road junctions and the approach speed might be very low because the
	reasing or in array where the level crossing are babitually subject to
	begins that road vehicles are forced to stop right pert to the
	heavy frame so that four vehicles are forced to stop fight flexing the
	barners and most to start on norm a start should be by the IM, the existing
	technical literature provides for respective increases of up to 10 seconds
	and up to 12 seconds for the two situations described above
	We also recommend assessing further increases of these times of the order
	of 1 second for every 3 metres above the 15 metre length of the road
	crossing or actual distance between the barriers.
	In the case of a level crossing with single complete barriers, we
	recommend assessing the possibility of adding a final free time to the
	minimum advance notice time designed and defined above, in order to
	ensure the crossing is cleared, as the whole length of the vehicle must also
	pass the second barrier in the direction of travel.
	We suggest assessing a further 5 seconds delay as free time for this
	function.
	Recommendation No 3: the IM should act so that works to remove level
	crossings, as in the specific case of the Cisternino level crossing, are
	performed as quickly as possible, with the resulting removal of the level
	crossing as soon as administrative procedures have been completed.
Safety measure	With the memo ANSF 8074/2013 of 12/11/2013, this Authority sent
	recommendations for the Manager to adopt further measures. The
	Manager was also requested to provide information on the
	implementation of works to improve the road recognition of level crossings,
	implementing recommendation No 1 formulated by this Directorate in the
	memo DGIF/DIV2/393/2012/7.1-9/Uscita of 26/11/12. Compliance with this
	recommendation was also requested in the memo ANSF 9093/2013 of
	13/12/2013 following receipt of the memo DGIF-segr- 408-2013 cl-2.1-
	9/Uscita of 10/12/13 in which this Directorate stated that the recognition of
	road and trattic signs on the road side near the level crossing at km 640.122
	of the Bari S. Spirito-Bari Parco Nord route had remained the same since
	the date of the accident.
	Ine manager was also requested to check the adequacy ot warning times



Implementation status	adopted (the time between the red light at the road side coming on and the moment when the barriers start lowering), for each level crossing, implementing recommendation No 2. The Manager was also requested to implement recommendation No 3 in all cases in which the completion of operations to remove the level crossing was not subject to any further technical or administrative constraints. Information about activities to remove level crossings, as set out by the Manager in the memo RFI-AD\A0011\P\2013\0000519 of 21/05/2013 was also requested. With the memos RFI-AD\A0011\P\2014\0000217 of 19/03/2014 and RFI- DTC\A0011\P\2014\0002308 of 1/08/2014, RFI provided some information in response to the recommendations, also stating that it had checked the times of barriers being raised and lowered.
Safety recommendation	Recommendation of the DGIF relating to the railway accident occurring on 29 February 2012 at the level crossing situated at km 73+423 on the Ravenna – Rimini line. <u>Recommendation to ANSF</u> ANSF is recommended to request the Infrastructure Manager to evaluate the following: The feasibility of replacing the current system of half barriers at the level crossing where the accident took place, with a system with full barriers, so as to constitute a deterrent to the unsatisfactory behaviour of road users, in view of the high level of vehicle traffic in the area. Extending this analysis to other level crossings with half barriers still in operation for which similar corridorations are valid.
Safety measure	With the memo ANSF 8223/2013 of 15/11/2013, the recommendations of this Directorate General were sent and information about the implementation of all previous recommendations concerning level crossings was requested. In the evaluation of measures to adopt, RFI was requested to consider the study on level crossings it conducted and sent with the memo RFI-AD\A0011\P\2013\0000519 of 21/05/2013, which assigns an accident ratio of 2.18 for half barrier crossings, and of 1.16 for full barrier crossings.
Implementation status	A response concerning this matter has not yet been received.
Safety recommendation	Recommendations of the DGIF relating to the series of accidents at the level crossing at km 1+265 of the Monza-Arcore route, to the railway accident of 12 July 2011 at the level crossing situated at km 4+813 of the Parma-Vicofertile route and outcomes of the Analytical study on railway accidents at level crossings. Recommendation to ANSE To notify the IM of the following: Recommendation No 1: the IM adopts, in agreement with Administrations in charge of managing roads where level crossings are situated, possible measures to generally improve the recognition and visibility of level crossings, also by changing local road systems. Recommendation No 3: the IM informs road users of the behaviour referred to in Recommendation 4 below, by installing appropriate and effective signs and/or notices inside the level crossing area, which are clearly visible – also from the driver's seat – by road users that have remained within the level crossing area, assessing the hypothesis of installing them on the inner side of the barriers as well. Recommendation No 4: the IM, bearing in mind that Legislative Decree No 285 of 30/04/1992 the 'New Highway Code' as amended, states in article 147 – 'Behaviour at level crossings' – paragraphs 4 and 5 that: 4. Road users must clear level crossings promptly. If the vehicle is forced to stop, the driver must try to move it off the tracks or, if that is physically



	and ensure that drivers of vehicles on the rails are notified in acod time of
	the existence of the hazard.
	5. Anyone who violates the provision in this article is liable to the
	administrative sanction of payment of an amount ranging from EUR 84.00
	to EUR 335.00.
	Similarly, if a vehicle has stopped between closed barriers and can no
	longer be operated, then the road user's action of knocking down the
	barriers manually will activate the railway traffic control systems in many
	types of railway equipment, so this action will encourage arriving trains to
	be stopped, fulfilling the requirement of aforementioned paragraph 4.
	<u>Recommendation No 5</u> : the IM increases the dissemination of devices to
	check whether it is safe to go across level crossings which are equivalent in
	effect to those defined in the RFI Level Crossing Operating Instructions,
	adopting an implementation plan that considers as a priority the
	Installation of the devices at level crossings identified as critical.
	Inis plan shall also take account of the priority requirements indicated in
	identified in chapter 2.2 of the Anglytical Study on Bailyay Accident Pater
	concerning Level Crossings, produced by this Directorate-general
	Recommendation No 6: the IM assesses the suitability of the general
	installation at level crossings of information panels giving data identifying
	the level crossing and the telephone number to contact to report promptly
	and effectively to rail traffic control staff the presence of an obstacle on
	the railway track at the level crossing itself.
	Recommendation No 8: the IM undertakes to monitor the actual lowering
	times of level crossings and adopt appropriate solutions to ensure that
	these times are generally restricted to a maximum time that will not lead
	road users to adopt wrong and/or dangerous behaviour.
	<u>Recommendation No 9</u> : the IM plans the general adoption of a suitable
	shape for barriers that is compatible with existing facilities and constitutes a
	physical deterrent to pedestrians and cyclists passing under these barriers
	when they are lowered.
Safety measure	With the memo ANSF 8555/2013 of 28/11/2013, RFI was requested to report
	he progress of measures daopted based on the recommendations issued
	the same matters as requests made in previous correspondence sent by
	the Authority.
	Specifically:
	as regards recommendation 1, information was requested about activities
	to improve the recognition and visibility of road side level crossings, with
	appropriate horizontal and vertical signs, as indicated in the memo RFI-
	DTC\A0011\P\2012\0000169 of 18/01/2012;
	As regards recommendation 3, information was requested about the status
	of actions to erect appropriate signs indicating to road users trapped
	between the barriers how to behave based on recommendations of
	competent bodies concerning recommendation 4;
	as regards recommendation 5, programmes were requested to install
	conformity to provisions in paragraph 4.24 of the Bailway Traffic
	Regulations and the status of rolative installation activities:
	as regards recommendation 6, the Manager was requested to affix
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	as regards recommendation 6, the Manager was requested to affix information identifying the level crossing and a telephone number to use to report any obstacles on the railway tracks; as regards recommendation 8, RFI was requested to monitor the lowering
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	as regards recommendation 6, the Manager was requested to affix information identifying the level crossing and a telephone number to use to report any obstacles on the railway tracks; as regards recommendation 8, RFI was requested to monitor the lowering times of level crossing barriers and to adopt solutions necessary to limit these times; as regards recommendation 9, information was requested about the progress of activities to equip level crossings with barriers of a shape and size that make it difficult for pedestrians or cyclists to pass under them.
Implementation	as regards recommendation 6, the Manager was requested to affix information identifying the level crossing and a telephone number to use to report any obstacles on the railway tracks; as regards recommendation 8, RFI was requested to monitor the lowering times of level crossing barriers and to adopt solutions necessary to limit these times; as regards recommendation 9, information was requested about the progress of activities to equip level crossings with barriers of a shape and size that make it difficult for pedestrians or cyclists to pass under them. With the memo RFI-DTC\A0011\P\2014\0000484 of 3/02/2014, the Manager
Implementation status	as regards recommendation 6, the Manager was requested to affix information identifying the level crossing and a telephone number to use to report any obstacles on the railway tracks; as regards recommendation 8, RFI was requested to monitor the lowering times of level crossing barriers and to adopt solutions necessary to limit these times; as regards recommendation 9, information was requested about the progress of activities to equip level crossings with barriers of a shape and size that make it difficult for pedestrians or cyclists to pass under them. With the memo RFI-DTC\A0011\P\2014\0000484 of 3/02/2014, the Manager sent the facsimile of the signs requested in recommendation No 6.



	analysed by this Authority, RFI provided some responses to the recommendations of this Directorate General on 19/03/2014. With the memo RFI-DPR\A0011\P\2014\0000910 DPR\A0011\P\2014\0000484 of 03/02/2014, RFI sent the facsimile of the information panel indicating the kilometre marker and telephone number of the emergency response unit to contact, in order to comply with the requirement in recommendation No 6. In the same memo, RFI informed its own local units of the advisability of installing notices banning access in railway areas (as per Article 19/3 of Presidential Decree 753/80) near to possible entrances comprising paths parallel to the tracks.
	was provided concerning other recommendations, indicating plans to equip level crossings with systems to identify when it is safe to cross them, and RFI also stated it wanted to install signs at level crossings and hoped the Directorate General for road safety would take action, as local administrations had not appeared to be entirely willing to proceed with
	these installations in the absence of specific guidelines.
Safety recommendation	Recommendation of the DGIF relating to the railway accident occurring on 12/05/2013 to train 20825 of the Railway Undertaking Trenitalia S.p.A., on the Venezia-Bassano del Grappa line, in the area of Castelo di Godego, at the level crossing situated at the 37+474 km marker.
	Recommendation to ANSF Considering any initiatives already taken, the DGIF reports that following the conclusion of investigations, no aspects were identified calling for the issue of safety recommendations pursuant to Legislative Decree No 162 of 10/08/2007. At the end of investigations carried out by the DGIF on level crossings, all
Cofoty magging	recommendations issued up until the present day are still confirmed.
Safety measure	with the metho ANSF 8899/2013 of 10/12/2013, the Authority forwarded recommendations to RFI, summarising recommendations previously issued to mitigate risks factors associated with accidents occurring at level crossings: Improve the visibility and recognition of level crossings, road side. Adopt devices for automatic line clear detection, railway side. Calibrate warning times and barrier closing times in relation to the actual way the road is crossed and trains pass. Affix information on how to behave for drivers trapped between the barriers, as well as prompt reporting to the rail traffic regulator. Review level crossings managed by private entities, immediately removing those which are no longer necessary and increasing the protection of remaining level crossings in level-crossing areas. The use of barriers that may not be passed, not even by pedestrians or cyclists.
Implementation	The outcomes notified are indicated in previous recommendations.
status	
Safety recommendation	Safety recommendation relating to the fire of the locomotive 445-1039 occurring on 27/03/2013 to train 3024 of the Railway Undertaking Trenitalia SpA, at the Firenze Cascine station. <u>Recommendations to ANSF</u> Referring only to the Railway Undertaking Trenitalia S.p.A.: analyse and assess the possibility of introducing changes to maintenance plans, possibly requiring all inspections needed to verify the integrity and wear of the expansion joints of the hot gas exhaust flue of the turbines of D445 locomotives and, in general, specific inspections of all components for which only removal and refitting operations are required during periodic servicing;
	components subject to particular and demanding thermal cycles and to loads that involve stress whenever inspections, as per the previous recommendation, identify that necessary operating safety margins for these components cannot be guaranteed.



	Referring to all railway undertakings:		
	if the railway undertakings have type D445 locomotives in their rolling stock.		
	they should undertake as quickly as possible a general campaign of		
	detailed checks on the expansion joints of all locomotives of this type, using		
	beth visual and instrumental inspections, provided they are non		
	bonn visual and instrumental inspections, provided mey are non-		
	destructive;		
	if the railway undertakings have type D445 locomotives in their rolling stock,		
	they should assess the advisability of amending the type of fire safety		
	equipment, switching to an automatic system with a double intervention		
	threshold of the sensors (1st threshold an acoustic and visual alarm, 2nd		
	threshold automatic activation of extinguisher operation), similar to syst		
	present on other types of rolling stock.		
Safety measure	With the memo ANSF 9158/2013 of 17/12/2013, the recommendations of		
	this Directorate General were issued to be adopted by RFL concerning		
	measures still not considered in previous correspondence with this		
	Authority		
	The following clarifications were also requested:		
	The following cidinications were also requested.		
	whether the inspections of the expansion joints and removable		
	components, aiready introduced and reported with the memo IRNII-		
	DI \F \2013 \0042687 of 06/08/2013, also concern diesel locomotives other		
	than but similar to type D445 models;		
	whether the inspections of the structural suitability of expansion joints,		
	already reported with the memo TRNIT-DT\P\2013\0042687 of 06/08/2013,		
	have also been confirmed by the engine manufacturer and designer and		
	also concern diesel locomotives other than but similar to type D445 models;		
	the reasons why the extinguishing agent present on the locomotive at the		
	time of the accident was considered as suitable.		
	With the memo ANSF 9157/2013 of 17/12/2013, all railway undertakings		
	were requested to:		
	inspect the integrity of expansion joints at the turbine exhaust flue of type		
	D445 supercharged diesel locomotives or similar and to include these		
	inspections in relative maintenance plans:		
	evaluate the advisability of making the operation of on-board		
	evaluate the advisability of making the operation of on-board		
	temperature threshold is reached		
luculous outotion	Transitalia, la su part recenida al informantian, in calalitian ta da su parte al indus		
implementation	irenitalia has not provided information in addition to that reported in the		
status	memo IRNII-DI\P\2013\0042687 of 06/08/2013.		
	Three other Railway Undertakings have informed us they have included the		
	inspection of the integrity of expansion joints as above, in their		
	maintenance plans, and that their locomotives already have automatic		
	fire safety systems.		
Safety	Recommendation of the DGIF relating to the collision occurring on		
recommendation	18/02/2013 between train 5194 and a truck on the railway tracks along the		
	Sondrio-Tirano route of the Lecco-Tirano line, km 9+709 marker.		
	Recommendations to ANSF		
	Considering any initiatives already taken, the DGIF reports that following		
	the conclusion of investigations, no aspects were identified callina for the		
	issue of safety recommendations pursuant to Leaislative Decree No 162 of		
	10/08/2007		
Safety measure	With the memory ANSE $0.6041/2013$ of $0.7/0.8/2013$ a response to the problem		
Surety measure	relating to vehicles falling onto the reilway track, addressed in the provinus		
	momore ANISE 02587/10 of 27/04/2010 and 0122/112 of 2//02/2012 in which		
	the Manager was requested to identify evident a size for this work of the Manager was		
	the manager was requested to identify critical points for this problem and		
	to install automatic systems to identify obstacle on the frack, was		
Implementation	Ine outcomes notified are indicated in previous recommendations.		
status			



C.3 Measures implemented not related to safety recommendations

Sector	Training of railway operator staff	
Description	To increase railway operator awareness of the current legal framework.	
of the		
reason		
Safety	Sponsorship of and participation in ASSTRA courses on:	
measure	safety in tunnels;	
introduced	d investigations into railway accidents, with indications on how investigations into	
	railway accidents and incidents to determine the causes are performed:	
	risk evaluation in the railway sector, explaining the main tools for application to th	
	railway system;	
	management of the railway wagon in the safety management system of a railway	
	Underfaking, explaining national and EU regulations for the carriage of goods and	
	nazardous materiais, new positions infroduced and responsibilities.	
	Participation in ASSTRA courses on the management of Safety Management	
	System audits and management of amendments	
Sector	Professional development for Safety Management System Managers	
Description	To increase knowledge and clarify some critical aspects identified in the	
of the	application of the EC Regulation 352/2009.	
reason		
Safety	Meeting of 10 April 2013 on the application of Commission	
measure	Regulation (EC) No 352/2009 and feedback.	
introduced		
Sector		
Description	Accidents at level crossings, information reported by the railway police and local	
of the	police on abnormalifies at level crossings and outcomes of inspections.	
reason	The enderstice of an environmente with the title value of the level encoder of the second s	
Safety	Ine adoption of measures to mitigate the risks related to level crossings operated	
introduced	by private organisations (ANSF 00050/15 of 20/1/2015 requesting the actions in the	
introduced	previous memo or zorzj was requested.	
	With the memo ANSF 004357/2013 of 13/6/2013, information was given to RFI about	
	the Manager's programme (memos RFI-AD\A0011\P\2013\0000453 of 3/5/2013	
	and RFI-AD\A0011\P\2013\0000519 of 21/5/2013) aimed at increasing safety levels	
	of level crossings, with considerations about wave trains and the extension of subamatic additional protoctions for lovel crossings in urban grass.	
	automatic additional profections for level crossings in urban areas.	
	With the memo ANSF 007038/2013 of 1/10/2013, RFI was requested to provide	
	information about recurrence of periodic failures of some level crossings.	
	With the memo ANSF 008092/2013 of 12/11/2013, the Manager was requested to	
	improve safety organisation for the management of level crossing abnormalities.	
	with the memo ANSF 008093/2013 of 12/11/2013, RFI was requested to evaluate	
	possible plant engineering solutions to minimise the lisk of error in osing the	
Sector	Management of hydrogeological risk	
Description	1. A statistic state state state state state in state state state state in the state st	
	Accidents and incidents related to hydrogeological disturbance, in particular in the	
of the	Accidents and incidents related to hydrogeological disturbance, in particular in the case of heavy rainfall.	



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Safety measure introduced	Following the occurrence of events related to hydrogeological disturbance, and in particular heavy rainfall, in line with the correspondence already exchanged with the Infrastructure Manager concerning this issue, RFI was requested to adopt suitable measures to deal with situations relating to heavy rainfall. With the memos ANSF 00604072013 of 7/8/2013 and 00043/2013 of 2/1/2013, the feasibility of a plan to install alarm sensors for natural hazards was requested.
Sector	Management of civil engineering works
Description of the reason	Outcomes of inspections and audits.
Safety measure introduced	With the memo ANSF 006520/2013 of 11/9/2013, following the introduction of a new operating methodology to inspect civil engineering works in line with existing European standards, RFI was requested to:
	prepare a comprehensive plan of inspections to conduct during the period of transition before the new methodology is applied in full; define a qualification system for staff conducting inspections that is consistent with current laws; detail activities supporting inspections; verify that all instruments are available; monitor activities currently being performed for complete implementation of the new inspection system.
Sector	Maintenance of the railway superstructure with wooden sleepers
Description of the reason	Recurrent element identified during the analysis of derailments and inspections.
Safety measure introduced	With the memo Ref. 007587/2013 of 25/10/2013, further measures were requested, in view of the ongoing criticalities reported in 2012, as well as an evaluation of the adequacy of the non-routine inspection specifically conducted, and a guarantee that inspections of the superstructure with the track loaded are always conducted after derailments.
Sector	Failure to comply with regulations and procedures for performing maintenance on safety systems
Description of the reason	Recurrent and potentially hazardous problem for which measures taken by RH are still not effective.
Safety measure introduced	With the memo Ref. 002374/2013 of 2/04/2013, RFI was requested to remind staff performing maintenance to observe the regulations and procedures and adopt urgent measures to prevent the recurrence of these events that result in redundant tests being carried out at the end of repair works
Castar	Ouerere unline on traine
Sector Description of the reason	Information reported by passengers.
Safety measure introduced	With the memo Ref. 000530/2013 of 23/1/2013, railway undertakings providing passenger services were requested to inform their staff about the use of spaces on wagons, giving them clear indications about how to identify overcrowding in relation to the transport capacity of the vehicle, also for the purposes of evacuation in emergency conditions and to identify actions to manage exceptional cases.
	A meeting was convened on 4 July 2013 with railway undertakings concerned (memo Ref. ANSF 004033/2013 del 31/5/2013) concerning the progress of actions adopted.



Sector	Registration in the National Vehicle Register (NVR)	
Description	Updating information.	
of the		
reason		
Safety	In 2013, the operators concerned were sent a number of memos requesting various	
measure	Lupdates to the data of registered reilway vehicles. These requests were accesser	
introduced	as decisions taken by the European Commission relating to the NVP required entry	
introduced	as decisions taken by the European Contrinstion retaining to the NVK required only a	
	part of the information that was historically registered in Italy for each vehicle, also	
	claritying some aspects that were not in sufficient detail.	
	Clarification about data to provide for the NVR in the case of several items of on-	
	board equipment.	
	With the memor ANSE 01539/2013 of 4/3/2013 requesting an extension of data	
	necessary to register vehicles in the NVR and undate on-board subsystem data. In	
	this regard on 21 May 2013 the Authority in providing some clarifications about	
	the definition of new registration as of memo 01539/2013, on its website, reminded	
	helders of the registration of wagens and special vehicles of the obligation to	
	noiders of the registration of wagons and special vehicles of the obligation to	
	certity, in contormity to kegulation 445/2011, SKMs registered in the NVR and that as	
	trom 9 November 2013 all vehicles registered in the NVR shall have on their sidewalls	
	the external markings as per EU Decision 2011/314 of 12 May 2011, including the 12-	
	digit EVN for vehicles without them.	
	The memo ANSF 02594/2013 of 10/4/2013 relating to maintaining requirements for	
	the registration of vehicles in the NVR that are registered with a time constraint.	
	The memo ANSF 007789/2013 of 31/10/2013 'Updating of data in the National	
	Vehicle Register (NVR). Expiry data of the authorisation for the placing in service of	
	vehicles'.	
	The ANSF memo Ref. 004824/2013 of 28/6/2013 relating to procedures for the	
	management of provisional aspects of authorisation processes for some types of	
	vehicle.	
C +	Tradicio en efectivo en energen eterte	
Sector	Training of railway operator staff	
Sector Description	Training of railway operator staff Operating incidents and retraining of staff involved.	
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Sector Description of the reason Safety	Training of railway operator staff Operating incidents and retraining of staff involved. With the memos ANSF 002121/2013 of 21/3/13 and 001351/2013 of 26/2/13 on the	
Sector Description of the reason Safety measure	Training of railway operator staff Operating incidents and retraining of staff involved. With the memos ANSF 002121/2013 of 21/3/13 and 001351/2013 of 26/2/13 on the erroneous scheduling of routes, on the erroneous dispatch of trains and on the	
Sector Description of the reason Safety measure introduced	Training of railway operator staff Operating incidents and retraining of staff involved. With the memos ANSF 002121/2013 of 21/3/13 and 001351/2013 of 26/2/13 on the erroneous scheduling of routes, on the erroneous dispatch of trains and on the absence of provisions concerning trains, the Infrastructure Manager was requested	
Sector Description of the reason Safety measure introduced	Training of railway operator staff Operating incidents and retraining of staff involved. With the memos ANSF 002121/2013 of 21/3/13 and 001351/2013 of 26/2/13 on the erroneous scheduling of routes, on the erroneous dispatch of trains and on the absence of provisions concerning trains, the Infrastructure Manager was requested to comply with provisions in regulations on the retraining of staff involved and on	
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Sector Description of the reason Safety measure introduced	Training of railway operator staff Operating incidents and retraining of staff involved. With the memos ANSF 002121/2013 of 21/3/13 and 001351/2013 of 26/2/13 on the erroneous scheduling of routes, on the erroneous dispatch of trains and on the absence of provisions concerning trains, the Infrastructure Manager was requested to comply with provisions in regulations on the retraining of staff involved and on the adoption of suitable measures to prevent these events. With the subsequent memo 006036/2013 of 7/8/13, RFI was requested to evaluate the effectiveness of relative measures adopted, as further events had occurred	
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Sector	Maintenance of vehicles		
Description	Accidents occurring in Italy and abroad.		
of the	Outcomes of inspections.		
reason			
Safety	The memo ANSF 004142/2013 of 5/6/2013, sending a safety alert issued by the		
measure	French National Authority relating to defects concerning AFR22 bogies to Italian		
introduced	The memory ANSE 00.1712/2012 and 07///12 and attended to the fail of a full of the second states of the second sta		
	Ine memo ANSF 004/13/2013 del 2//6/13 relating to the tailure of the axle of		
	wagon involved in the derailment of a train in transit at Formia station on 25 Jur		
	2013, for the adoption of suitable measures by railway operators. This event was		
	also reported to the ERA information System to inform the ERA and all Nationa		
	AUTIONITIES OF The problem. The memory ANSE 004211/2013 of 7/6/2013 conding a cataty alort to Italian ra		
	operators relating to the damage to the brake linkage on a vehicle from France		
	covered by the VTS system.		
	The memo ANSE 05361/2013 of 17/07/2013 with which the Authority notified the		
	measure adopted by the French National Safety Authority (EPSF) regarding the		
	suspension of registration in the French National Vehicle Register of vehicles whos		
	keepers have not correctly appointed a certified Entity in Charge of Maintenance		
	pursuant to EU Regulation No 445/2011.		
	The memo ANSF 006011/2013 of 7/8/2013, notifying the failure of the axle of a set of		
	wheels type 9052 occurring in France on 16 July 2013.		
	With the memo ANSF 006128/2013 of 13/8/2013, notifying a safety alert relating to		
	possible tailures of type ASTS edges, as reported by the French National Safety		
	Authority, for the adoption of measures indicated. The memory ANSE 006280/2013 of 28/8/2013 'Criteria associated with the safety of		
	railway traffic to consider when accepting the carriage of goods' following		
	raliway traffic to consider when accepting the carriage of goods' following		
	The memos ANSE 003327/2013 of 8/5/13, 0034478,2013 of 13/5/13 and 003848/2013		
	of 24/5/13 following the derailment of a train caused by the rim of a wheel coming		
	off, the undertaking was requested to conduct non-routine inspections on all		
	vehicles with wheel sets comprising wheels with a coated rim and to adopt		
	necessary technical, maintenance or management measures based on inspection		
	outcomes.		
Sector	Doors		
Description	Accidents.		
of the	Outcomes of inspections.		
reason	Reported information about door anomalies.		
Safety	various memos based on the analysis of individual accidents or incidents and		
introduced	detected		
introduceu			
Sector	Undue presence and transit in busy areas		
Description	Accidents.		
of the			
reason			
Safety	Outcomes of the report on 2012 safety trends.		
measure	Meeting of 4 July 2013 with railway undertakings concerned (memo ANSE		
introduced	004033/2013 of 31/5/2013 convening the meeting		
Sector	Lengthy stoppages of trains transporting hazardous materials		
Description	Reported information.		
of the			
reason			
Safety	The memos ANSF 002983/2013 of 26/4/13 and 001337/2013 of 26/2/13 requesting RFI		
measure	to adopt suitable measures to limit stoppages.		
introduced			



Sector	Fire
Description	Accidents.
of the	
reason	
Safety	Various memos based on the analysis of individual accidents or incidents and
measure	concerning the identification and resolution of maintenance or operating problems
introduced	detected.

PART D – SUPERVISION

As part of the remit and competencies assigned to it under Legislative Decree No 162 of 10 August 2007, in line with the rules issued by the ANSF Decree of 10 August 2012, the Authority performed oversight, control and monitoring activities in 2013, in order to:

monitor the adoption of technical and safety standards;

monitor the adoption of technical provisions and requirements concerning the operation and maintenance of subsystems comprising the railway system in conformity with relevant essential requirements;

check the existence of conditions and compliance with requirements for the issue and maintenance of safety certificates, safety authorisation and recognition from thirdparty organisations;

supervise the safety performance of railway operators;

monitor the activity of training centres;

monitor the conformity of Railway Undertakings and the Infrastructure Manager in using a safety management system;

verify the conformity of the Infrastructure Manager and Railway Undertaking operations to the requirements of EU and national law relating to railway traffic safety.

The activities were performed using the following resources:

Inspections, meaning the specific, non-reproducible control of each element of the railway system, with random checks performed continuously and specific inspections and investigations conducted following reported information (also by the Railway Police), accidents and incidents, outcomes of other Authority activities and for requirements not covered by ongoing controls.

Audits, a systematic process concerning certified operators to establish to what extent policies, procedures and requirements have been met (documentation audits and audits in the field).

Targeted checks on the accidents and incidents considered most significant, with the aim of promptly acquiring all information necessary to identify the cause of the event and so that the Authority or operators can adopt measures to help prevent the repetition of such events.

Monitoring and analysis of accidents and incidents.

The adoption of provisions regarding operators involved, following analysis of the recommendations issued by the Directorate General of the Italian Railway Investigation Body, and monitoring the implementation of such provisions.

Meetings with railway operators as regards authorisation processes and following the issue of safety certificates and safety authorisation.

D.1 Strategy and plan

As part of its remit and competencies, the Authority has established activities to perform based on the guidelines for priorities and specific objectives set out by the Ministry for Infrastructure and Transport with Directive Ref. No 41 of 4.02.2013 and notified to the Authority by the Directorate General for Rail Transport of the Ministry for



Infrastructure and Transport with the memo Ref. M_INF-TFE Directorate General for Rail Transport TFE-DIV2 REGISTRO UFFICIALE Prot. 0000486-26/02/2013-USCITA.

In particular, the following priorities have been established for inspection, control and monitoring activities:

Completion by RFI of the planning of measures required as a result of the issue of Directive 1/DIR/2010 of 22 February 2010 and monitoring of their implementation.

The continued monitoring of RFI 's implementation of controls relating to provisions on the transport of hazardous materials.

Supervision of the correct adoption of Safety Management Systems by means of random checks at Railway Undertakings and the Infrastructure Manager, with particular reference to Undertakings that transport hazardous materials.

The extension of controls performed as audits and inspections, taking account of available resources.

The identification of causes and elements of interest in the case of railway accidents.

The supervision of the precise compliance by railway operators with the legal framework regarding the transport of hazardous materials and sample checks of the correct adoption of provisions in the RID.

The monitoring of the effects of the implementation of rules issued with the ANSF decree No 4/2012 of 10 August 2012, as regards the activity of operators to define operating provisions and requirements.

In light of the above the document '2013 audit plan – Authority audits and inspections' was issued on 28 December 2012, containing the inspections and audits to conduct in 2013 of the Infrastructure Manager (RFI) and of Railway Undertakings that have a safety certificate or are in the process of obtaining the safety certificate to perform the service on the network assigned to RFI.

The plan also includes the audit activities of training centres recognised by the Authority, in order to verify that requirements established when qualifications are issued are maintained.

The plan comprises the following types of activities;

Document audits of the conformity of Safety Management Systems to the requirements of Regulations (EU) 1158/2010 and 1169/2010 and of Maintenance Systems for railway operators that are also Entities in Charge of Maintenance.

System audits, performed in the field, checking the implementation and effectiveness of Safety Management Systems and Maintenance Systems.

Process audits, performed in the field at railway operator sites, checking the implementation and effectiveness of operating processes relating to the safety of railway operations and their conformity to current regulations.

Follow-ups of previous audits.

Inspections of staff, vehicles and facilities.

The planning of activities took into account processes to issue safety certificates and safety authorisations completed or being completed when the plan was written, regulatory updates concerning the railway system, at both a European and national level, and was developed based on the further investigation of issues resulting from:

The outcomes of system and process audits and inspections conducted in the previous year.

Analysis of accident rate data and the results of investigations performed following operating incidents occurring in 2012.

Needs reported by other Authority divisions.

Reported information from organisations and associations or otherwise notified to the Authority.



Planning took account of the availability of qualified persons to perform activities and their possible use in relation to the specific competencies required for each type of activity.

The following RFI areas and processes were identified for further investigation with system, process and product audits:

change management, pursuant to EC Regulation 352/2009;

the management of interfaces between the Infrastructure Manager and Railway Undertakings;

operating activities;

internal control processes;

operating processes such as the management and performance of maintenance on the infrastructure, traffic management, the activation of facilities, performance of works, management of civil engineering works and hydrogeological risk, aspects related to the transport of hazardous materials;

RFI products, such as the control of track, switch point and facility conditions, mainly identifying station yards with significant traffic volumes and depots of hazardous materials.

For Railway Undertakings, processes identified as shortcoming in assessments of Safety Management Systems during the issue of safety certification were audited.

In general, the following areas and processes were identified for further investigation for Railway Undertakings:

risk evaluation and assessment, with particular focus on interface risks and risks caused by external activities and the definition and implementation of measures to mitigate risks.

change management, pursuant to EC Regulation 352/2009;

the management of maintenance and relations with the Entity in Charge of Maintenance;

implementation of the role of the Entity in Charge of Maintenance, for undertakings with this role;

internal control processes;

operating processes including staff training and verifying competencies, with particular focus on changes to the qualification system of the driving sector and other safety activities, verifying the performance of duties of operating staff, the identification of the individual model adopted and consequent identification of training needs and definition of necessary corrective actions, the operation of the shunting service, the management of aspects related to the transport of hazardous materials, maintenance and interaction with operations, including procedures to identify and record abnormalities and the management of information reported from control centres.

Ongoing inspections were planned for vehicles, for aspects relating to the technical inspection of rolling stock and hazardous materials, and for the infrastructure, for aspects relating to the functional efficiency of switch points and tunnels.

During the year, the '2013 Audit Plan – Authority audits and inspections' was revised twice:

the first revision of 28 March 2013 concerned the type of controls to perform to bring them into line with the guidelines of the Ministry for Infrastructure and Transport, operational planning aspects, to introduce some aspects to prevent the risk of corruption also with reference to law No 190 of 6 November 2012 'Provisions for the prevention and repression of corruption and crime in public administration' and the volume of some activities;

the second revision of 23 July 2013 concerned the increase in the volume of inspections of railway undertakings and audit activities being re-allocated to different types, to take into consideration requests for safety certificates to be updated and renewed.



D.2 Human resources

In 2013, 42 people were employed to perform inspections.

Approximately 63,792 hours were worked, comprising 8,768 person/days, to perform audits and inspections in 2013, with an average use of approximately 1,518 work hours per year per agent.

This data justifies why human resources of some sectors are entirely dedicated to supervision activities, which comprise preparation, performance and control stages. Considering the overall value of the hours used in preparing and performing supervision activities, an estimated 42% of the hours and days worked by Authority staff were dedicated to these activities in 2013.

D.3 Competency

The Authority uses staff selected by the FS Group to guarantee that the competencies necessary to perform the duties assigned by the Directive 49/2004/EC to the Authority are maintained.

The staff used in supervision activities previously held roles with competencies guaranteed by a competencies management system and relative updating implemented by the FS group.

With the transition of this staff to the Authority starting from October 2012, it was necessary to update the competencies of staff in the new railway system configuration established by the Directive 49/2004/EC.

In this framework, a process was established in 2013 to develop and update staff competencies based on the following training initiatives:

a professional development course comprising (7) sessions of (1) day each for (98) staff members. The course concerned new aspects introduced by the reorganisation of regulations issued by the Authority with Decree 4/2012, which came into force on 1 January 2013;

a professional development course for staff assigned to controls of infrastructure departments comprising of (1) session of (2) days for (13) staff members. The course concerned the infrastructural characteristics of level crossings and interaction with line signals and controls and inspections of the infrastructure in the case of derailment, to determine the causes;

a course and consequent qualification process for Authority staff appointed to evaluate candidates who are staff trainers and examiners with safety duties of (2) sessions of (2) days for (7) staff members.

D.4 Decision-making process

D.4.1 Decision-making criteria on how the Authority monitored, promoted and implemented compliance with the legal framework and procedure for establishing those criteria

In the report on 2012, the reorganisation of regulations, adopted by the Authority with Decree No 4 of 9 August 2012 which came into force on 1 January 2013, was discussed in full. The reorganisation of regulations comprises a single act on principles of rail traffic safety, of roles and responsibilities of operators and of rules on the qualification of staff performing safety activities. This reorganisation took place after more than three years of work with frequent meetings held with operators and all other entities concerned.



The effects of the reorganisation may be summarised as follows:

full alignment with EU regulations that assign national authorities the duty of issuing principles and operators the duty of issuing operating provisions in compliance with these principles;

a greater transparency and clarity of safety regulations, previously related to a regulatory framework that was not uniform and had become stratified over time;

establishment of the principle of non-discrimination among operators, as these principles have been issued by an entity independent of operators;

the introduction of some changes to several principles that make it possible to increase safety levels.

The reorganisation of regulations allows the system to be more competitive and also guarantee greater safety. Following the reorganisation of regulations, the Authority's activities on the regulatory front concentrated on monitoring the operating instructions and provisions issued by operators to regulate their internal processes and, in the case of the Infrastructure Manager, also the procedures for interfacing between its staff and the staff of Railway Undertakings. This monitoring activity, summarised in part B above, the purpose of which is to verify that provisions issued by operators are consistent with the safety principles, showed some critical areas right from the initial stages. Firstly, a considerable delay in adapting to the safety principles changed with respect to the pre-existing framework was identified, firstly by the Infrastructure Manager, also required to regulate interface provisions with Railway Undertakings.

These delays are attributable to two causes: on the one hand a system difficulty in assimilating the cultural change required by the EU directives, and on the other, a certain resistance to adapting to the safety principles changed as a result of the process to reorder regulations and which, inevitability, introduced greater constraints for operators. In order to overcome these difficulties, the Authority convened a number of meetings in April 2013 with all operators concerned, in order to provide indications and clarifications necessary for an optimal development of the process.

The Authority will also continue monitoring in the future, whenever an operator changes its own operating provisions, in order to verify compliance with the safety principles issued.

The following should also be noted:

Memo ANSF Ref. No 004825/2013 of 28/06/2013: with this memo, all entities concerned were requested, as provided for by Article 5 (6) of Legislative Decree No 162 of 10 August 2007, to provide an opinion on the project 'Technical standards for the design, installation, validation and maintenance of fire detection and extinguishing systems for railway vehicles – general principles';

Memo ANSF Ref. No 005572/2013 of 23/07/2013: with this memo, all entities concerned were requested, as provided for by Article 5 (6) of Legislative Decree No 162 of 10 August 2007, to provide an opinion on the National Technical Standard project 'Shunting engines whose use is limited to service facilities', also providing a template for comments;

an initiative was taken for RUs, the IM and recognised training centres to promote compliance with the legal framework applicable to the issue of qualification for staff used in safety activities comprising (6) sessions of (1) day each for (70) staff representing the RUs of the IM and the recognised training centres.

D.4.2 Main complaints received from Railway Undertakings and the Infrastructure Manager

No complaints were received from Railway Undertakings or RFI about decisions taken by the Authority during supervision activities.



The following difficulties, related to Authority activities, were reported in the Annual Safety Reports sent by railway operators:

Interface difficulties on the stretch of line from the Italian border and Modane, due to the French and Italian regulations in place.

Difficulties in implementing the reorganisation of regulations as the comparison tables of the Authority were based on texts that were not always aligned with current laws.

D.5 Coordination and cooperation

On 30 October 2013, an agreement was signed between the national railway safety authorities of Austria and Italy, relating to the mutual recognition of authorisation for the placing in service of locomotives and passenger vehicles. In 2013, the agreement in question had not yet been applied as implementation questions had not yet been received. Activities of the Dutch, German, Swiss, Austrian and Italian safety authorities continued however, for authorisation for the placing in service of locomotives, enacting the agreement of 7 June 2007 between said National Safety Authorities.

Moreover, during the year, numerous meetings were held with the Safety Authorities of border countries (Switzerland and Slovenia) to define further agreements, some of which may be stipulated in 2014, in order to verify procedures to access border lines and stations as well as cooperate in performing inspections, with a view to guaranteeing safety oversight.

D.6 Results of measures adopted

Activities carried out by the Authority to verify the performance achieved by the Infrastructure Manager and Railway Undertakings identified that measures adopted have considerably reduced the occurrence of some factors affecting accidents and incidents, and include:

a reduction in SPADs on departure from stationary conditions relating to the operations of train drivers and the train conductor;

a reduction in the spillage of hazardous materials;

a reduction in harm to travellers boarding or alighting from doors of moving trains, zero collisions between trains.

These results stem from synergies encompassing the use of technological tools, regulatory changes and the commitment of railway operators.

As regards other issues, such as the oversight of maintenance processes concerning both infrastructure and rolling stock, the results hoped for were not achieved.

PART E – CERTIFICATION AND AUTHORISATION

E.1 Guidelines for issuing safety certificates

The Italian National Safety Authority [Agenzia Nazionale per la Sicurezza delle Ferrovie] issued and published on its institutional website on 23 March 2010 'Guidelines for the Issue of Safety Certificates' (Ref. ANSF 01766/10) that establish procedures, necessary requirements and documents that Railway Undertakings shall produce to obtain the Safety Certificate to access Italian railway infrastructure.

Following feedback on the application of guidelines in processes to issue/renew/update/withdraw the Safety Certificates and following the development



of the Italian legal framework regarding rail traffic safety, revision of the guidelines is necessary and this is now underway.

At the same time as this revision, the Authority is also preparing guidelines for the issue of safety authorisation to Infrastructure Managers.

On 7 August 2013 (Ref. ANSF 006032/2013) the Authority also issued and published on its website 'Guidelines for the issue of authorisation for the placing in service of vehicles, structural subsystems or parts thereof' which establish the technical procedures, conditions and activities to be performed for the Italian National Safety Authority to issue measures authorising placing in service.

E.2 Contacts with other National Safety Authorities

During 2013 there were no requests by other National Safety Authorities and no requests by this Authority to other National Safety Authorities regarding processes for part A and part B certificates.

Only one process to issue a part B safety certificate is ongoing, following the request from a railway undertaking with a part A and part B safety certificate issued in France, however at present no contact with the French NSA has been made.

E.3 Procedural matters

Thirty-four railways undertakings have a safety certificate, of which 17 for the transport of hazardous materials alone, 9 for passenger services only and 8 for passenger services and the transport of goods, as shown in the graph below which shows the value and the percentage.



IT	EN
Distribuzione dei certificati di sicurezza per	Distribution of safety certificates by service type –
tipologia di servizio- Anno 2013	2013
merci	goods
passeggeri	passengers
passeggeri e merci	passengers and goods

The number of part A Safety Certificates issued was basically the same compared to 2012 (28 in 2012 against 26 in 2013); the distribution of types of measures changed instead in relation to the number of 'Conversions' issued which went down from 42% in 2012 to 11% in 2013 and compared to 'Extensions' issued which went up from 39% in 2012 to 73% in 2013.



Distribution by type of measure

Certificati parte A



IT	EN
Certificati parte A	Part A certificates
Anno 2012/2013	2012/2013
Nuovi CDS	New certificates
Conversioni	Conversions
Aggiornamenti	Updates
Proroghe	Extensions

The decrease in 'Conversions' is due to the fact that as time passes, the number of companies that have to convert old safety certificates issued pursuant to Legislative Decree No 188/2003 has gone down (at 31 December 2013 only 4 companies still had to convert their certificates).

The increase in 'Extensions' is due instead to the fact that many safety certificates have been issued with a limited validity (less than the maximum of five years established by law) because of necessary requirements issued to make Safety Management Systems fully compliant with regulatory requirements.

Lastly, one part A and part B certificate was withdrawn, as the safety requirements of regulations were no longer complied with.

The number of part B certificates issued in the Safety Certificates process went up by 27% compared to 2012 (52 compared to 41), due to more requests from Railway Undertakings to update certificates to bring their services in line and more specifically with market needs.

For other differences arising from the comparison of the two years considered, as regards 'Conversions' and 'Extensions', the considerations already made for part A safety certificates apply.


Distribution by type of measure

Certificati parte B



IT	EN
Certificati parte B	Part B certificates
Anno 2012/2013	2012/2013
Nuovi CDS	New certificates
Conversioni	Conversions
Aggiornamenti	Updates
Proroghe	Extensions

Evaluation processes to issue/update safety certificates identified a number of aspects that were included in observations made about the Safety Management Systems of Railway Undertakings. These aspects refer to the incomplete implementation of the Regulation (EU) 1078/2012 and inadequate coverage of the following criteria of the Regulation (EU) 1158/2010:

Criterion B (Risk control related to the supply of maintenance and materials)

Criterion C (Risk control related to the use of contractors and control of suppliers)

Criterion D (Risks arising from the activities of other parties external to the railway system)

Criterion M (Procedures and methods for performing risk evaluation and implementing risk control measures whenever a change of new material imposes new risks on the infrastructure or on operation)

In addition, as regards assessments of Safety Management Systems carried out to verify compliance with national regulations (therefore relating to the issue of part B Safety Certificates), some criticalities were identified regarding:

training processes and the maintenance of staff competencies in compliance with new legal frameworks in force;

processes to manage maintenance activities if the railway undertaking acts as ECM, in the correct management of interfaces (maintenance engineers, keepers of vehicles, ECM) and if the railway undertaking does not act as an ECM.

As regards assessments of the risk evaluation and assessment processes adopted by Railway Undertakings, in 2013 the Authority updated the competencies of Managers of Safety Management Systems qualified pursuant to the Annex to the ANSF Decree No 4/2011 of 25/3/2011 'Regulations for the qualification of the Safety Management System Manager'. This update concerned training on the correct adoption of Commission Regulation (EC) No 352/2009 (relating to the risk evaluation methodology) and subsequent monitoring of learning by all participants, in order to maintain the qualification.



The procedure to issue Safety Authorisation to the Infrastructure Manager RFI continued in 2013, with the Authority verifying the process to update RFI's Safety Management System and organisation to take into account the responsibilities established by the new legal framework (Directive 2004/49/EC, implemented in Italy by Legislative Decree No 162 of 2007, and Regulation 1169/2010). This activity resulted in the issue of provisional Safety Authorisation on 6 February 2014, extended at the end of September 2013 up until 30 June 2014.

Failure to issue permanent Authorisation in 2013 is due to the process to update the Safety Management System which is still being implemented by the Infrastructure Manager Rete Ferroviaria Italiana S.p.A., the purpose of which is to demonstrate conformity to regulations in force. This update is not only a formality but implies actual changes to the Manager's organisation to guarantee that necessary internal controls are undertaken on the correct performance of all industrial processes that impact safety.

Although some organisational changes were made and various documents presented, the Manager is still not fully compliant with EU regulations (Commission Regulation (EU) No 1169/2010 of 10 December 2010 on a common safety method for assessing conformity with the requirements for obtaining a railway safety authorisation); for this reason the current Authorisation is still temporary.

E.4 Feedback

Feedback is provided during frequent meetings between the Authority and operators, and is an important way to exchange information and assess experience of activities performed and undertaking understanding of activities performed by the Authority's structures, in order to identify the operational and procedural areas which require improvement actions.

These meetings take place individually with the Railway Undertakings or in joint sessions that are periodically planned by the Authority on specific issues.

Standards which the operators can use to communicate problems/observations on procedures in force have not currently been formalised.

E.5 Authorisation for the placing in service of vehicles

During 2013, 542 authorisations were issued for the placing in service of vehicles.

A comparison of the number of authorisation processes in the 2012-2013 period shows that measures went up two-fold last year (542 against 268 in 2013), (with an average of 2 measures per working day).

The distribution of the number of authorisations issues, by vehicle type, for 2012 and 2013 is shown below.



Autorizzazione di messa in servizio veicoli



IT	EN
Autorizzazione di messa in servizio veicoli	Authorisation for the placing in service of vehicles
VEICOLI SPECIALI	SPECIAL VEHICLES
CARRI	WAGONS
CARROZZE	COACHES
LOCOMOTIVE CONVENZIONALI	CONVENTIONAL LOCOMOTIVES
LOCOMOTIVE AV	HS LOCOMOTIVES
AV A COMPOSIZIONE BLOCCATA	HS MULTI-UNIT PERMANENT TRAINSETS
CONVENZIONALI A COMPOSIZIONE BLOCCATA	CONVENTIONAL MULTI-UNIT PERMANENT TRAINSETS
Numero Veicoli 2012	Number of vehicles 2012
Numero Veicoli 2013	Number of vehicles 2013

Analysis of data shows that the vehicle types with the highest increase in the number of authorisations for placing in service were: passenger coaches, wagons and conventional permanent trainsets. The latter type, along with coaches, is mainly used for regional transport and therefore for commuters.

The considerable complexity of the authorisation for placing in service, in particular for types of vehicles, should be noted, as the procedure entails a considerable number of intermediate stages (authorisation to perform line testing, temporary authorisations, etc.) along with relative supporting technical documentation. The number of dossiers involved in the procedure give an idea of the scale and type of documents required. The number of dossiers read is about 68, each comprising on average 11 technical files, for a total of 750 technical files.

Analysis of the distribution of the number of authorisations issued in 2012 and 2013, by type (figures below), shows an increase of more than 100% in the number of authorisations for placing in service which, in the case of a request for new vehicles, went up three-fold compared to the previous year. In fact, the number of authorisations issued went up from 76 in 2012 to 321 in 2013 (+322%).





Distribuzione per tipo di provvedimento

IT	EN
Distribuzione per tipo di provvedimento	Distribution by type of authorisation
AUTORIZZAZIONE PER PROVE IN LINEA	AUTHORISATION FOR LINE TESTS
AUTORIZZAZIONE PER MODIFICHE	AUTHORISATION FOR MODIFICATIONS
RICHIESTA DI PROROGA	REQUEST FOR EXTENSION
VEICOLO NUOVO	NEW VEHICLE
Numero Veicoli 2012	Number of vehicles 2012
Numero Veicoli 2013	Number of vehicles 2013

The distribution as a percentage of the types of authorisation issued in 2012 and 2013 shows that the highest percentage of authorisations in 2012 concerned requests for extensions (57%), while in 2013, authorisations for the placing in service of newly constructed vehicles ranked first, accounting for 59%.

Distribution by type of authorisation



IT	EN
Anno 2012/2013	2012/2013
Veicolo nuovo	New vehicle
Richiesta di proroga	Request for extension
Autorizzazione per modifiche	Authorisation for changes



Autorizzazione per prove in linea

Authorisation for line tests

In order to regulate and harmonise procedures for the issue of authorisations for placing in service with the current legal framework, guidelines were issued at the start of 2013 on the authorisation for the placing in service of vehicles, structural subsystems or parts thereof. (Guidelines No 2/2013). This important document has given all stakeholders in the railway sector (manufacturers of railway vehicles, railway undertakings, infrastructure managers, independent safety auditors) a resource that addresses not only all European decisions on the interoperability of the EU railway system and national regulations, but more importantly, that defines all technical and administrative procedures to adopt to start the authorisation procedure as a whole.

E.6 Authorisation for the placing in service of fixed structural subsystems, general signalling applications and general signalling products

In 2013, activities of the Authority to authorise the placing in service of fixed structural subsystems, comprising the railway system, were completed.

Legislative Decree No 162/2007 assigns the Authority the duty of authorising the placing in service of fixed structural subsystems, comprising the railway system, installed or managed in Italy. 'Authorisation for Placing in Service' (APIS) is the final stage of a process in which conformity of subsystems to the safety requirements established in Technical specifications for interoperability (TSIs) and notified national regulations is assessed. Based on functions established by Legislative Decree No 162/2007, the Authority also issues authorisation for placing in service for general signalling applications (GA) and general signalling products (PG). Moreover, pursuant to Legislative Decree No 191/10 Article 19, in the case of the renewal or upgrading of operating systems, the Authority issues an opinion on whether the procedure to authorise placing in service needs to be started, based on a technical dossier presented by the Applicant.

Competencies for the procedures in question, previously overseen by the Manager, have been dealt with by the Authority since 2010.

A comparison of procedures implemented in 2012 and 2013 is given below.





IT	EN
AMIS	APIS
Pareri (art.19 D.Lgs 191/10)	Opinions (Article 19 Legislative Decree No 191/10)
Sottosistema CCS	CCS subsystem
Sottosistema CCS AG/PG	CCS subsystem GA/GP
INFRA	INFRA
ENE	ENE

	Authorisations issued for Placing in Service	Opinions issued (Article 19 Legislative Decree No 191/2010)
2012	13 (5 relating to GA/GP)	1
2013	19 (4 relating to GA/GP)	18

The issue of authorisation by the Authority for infrastructural subsystems does not allow for the actual operation of facilities, which shall be overseen by the Infrastructure Manager after remaining authorisations on safety, that are not under the responsibility of the Authority, pursuant to Article 3 of Legislative Decree No 162/2007, have been obtained.

E.7 Recognition of training centres

In 2013, 3 certificates of recognition were issued, two as first issue certificates and one renewal, to extend training to include safety activities on the 'Maintenance of vehicles' in addition to training for safety activities on the 'Train driving', 'Train formation' and 'Train crewing'.



PART F – LEGISLATIVE CHANGES

F.1 Directive on railway safety

Law Decree No 69 of 21 June 2013, , converted with amendments by Law No 98 of 9 August 2013 introduced (with Article 24, paragraph 3-bis) paragraph 3-bis of Article 12 of Legislative Decree No 162/2007. The wording of this article states:

'The changes as of paragraph 2 cannot establish safety levels other than the minimum levels defined by CSTs, unless accompanied by an estimate of necessary additional costs and by analysis of the economic and financial sustainability for the Infrastructure Manager and for Railway Undertakings, along with reasonable estimates of relative implementation times'. For other information, see Table 1 of Annex B.

F.2 Changes in legislation and regulations

For information concerning changes, see Table 2 of Annex B.

PART G – APPLICATION OF THE COMMON SAFETY METHOD FOR RISK EVALUATION AND ASSESSMENT

G.1 Experience of the Italian National Safety Authority

With the memo Ref. ANSF 8936/12 of 19/11/2012, the Authority reminded railway operators of their obligation to provide a summary of activities for application of the Common Safety Method (CSM) for analysing and assessing risks, as required by current regulations.

With the aim of rendering the information obtained both uniform and consistent, the Authority indicated in the same memo that the data provided should be structured as shown below:

description of the main modifications deemed to be not important by the proposer, Type of modification (technical, operational or organisational),

decision-making criteria,

description of the main modifications deemed to be important by the proposer,

type of modification (technical, operational or organisational),

involvement of subcontractors and management of interfaces,

involvement of the Independent Safety Auditor(s), in the role of CSM assessor,

brief description of the overall effectiveness of the risk management process in accordance with Regulation No 352/2009,

step for identification of dangerous events,

step for assessment of the risks and acceptance criteria used:

codes of good practice,

similar reference systems,

explicit assessment of risk,

demonstration of conformity to safety requirements,

risk management process using the register of dangerous events,

brief description of the audits performed by the proposer on the efficiency of its risk management process,

brief feedback by the proposer and, where necessary, by relative subcontractors and independent safety auditors, regarding the application of Regulation No 352/2009,



where applicable: experience of the proposer regarding application of the CSM for analysing and assessing risks, in those cases where the application has taken place, on a voluntary basis, before the entering into force of the above-mentioned regulation.

Having regard to the above, elements for application of Commission Regulation (EC) No 352/2009 during 2013 were provided by approximately two-thirds of all Railway Undertakings, by the Infrastructure Manager RFI and by three manufacturers of railway vehicles (ALSTOM Transport Italia, BOMBARDIER and STADLER) with a positive trend compared to the previous year.

There is no immediate evidence of the application of CSM by operators acting as Entities in Charge of Maintenance.

In general, and apart from a few exceptions, the data provided are not complete and structured as required, with the requirements of points 3 and 4 mentioned above not complied with, so significant feedback on the activities of CSM assessors involved or, in general, on the application of the Regulation is not provided.

Aggregate data show that 'significant' changes pursuant to the Regulation – and which therefore call for the method as of Annex 1 of the Regulation to be adopted – do not reach 7% of a reported total of 250 changes impacting safety and therefore subject to a major assessment. In keeping with the nature of activities performed, in the case of Railway Undertakings, mainly operational changes were implemented, while in the case of the Infrastructure Manager and vehicle manufactures, mainly technical changes were implemented.

As regards the number of modifications reported, those relating to the incumbent Trenitalia and the Infrastructure Manager RFI comprise approximately 40% of the total and this percentage does not vary significantly if referred only to considerable changes.

As regards adoption of the Regulation, no element was identified concerning the application of company procedures that should regulate risk assessment and management in the cases of changes that are not significant. This aspect was covered by a specific Recommendation issued by ANSF to the Infrastructure Manager RFI in June 2014 based on evidence identified in procedures for authorisation for placing in service during 2013. However the Infrastructure Manager's report states that internal processes relating to the application of CSM were reorganised during 2013.

The evidence provided confirms an improvement in the management of risk assessment and management processes. However, in order to achieve complete and effective implementation of the Regulation, considering that a significant number of operators have not provided relative information or this information is incomplete, further familiarisation of all players involved is considered necessary, with a particular focus on Entities in Charge of Maintenance and manufacturers.

As part of Safety Certification processes, 25 applications for updates were made by Railway Undertakings in 2013. In 17 cases (i.e. 68% of applications), the updates concern the use of new types of vehicles.

In all cases:

the undertakings adopted the methods established by Commission Regulation (EC) No 352/2009 and procedures contained in their own safety management systems. The modifications were not significant and so it was not necessary to involve assessment bodies;

during the monitoring of railway operators after the reorganisation of regulations, the Authority requested, in specific memos, that some operators adopt the 'Commission Regulation (EC) No 352/2009 of 24 April 2009 on the adoption of a common safety



method on risk evaluation and assessment' to assess the acceptability of risks connected with changes to their operating regulations.

In particular these memos referred to regulations concerning:

the mitigating actions to be adopted in the case of driving cabs with critical signal visibility in some specific traffic modes;

the mitigating actions for risks connected with failure to comply with braking distances at some facilities;

the procedures to be adopted in the case of events with an impact, even potential, on the safety of traffic;

the use of tablet computers by the driving crew;

the mitigating actions to be adopted in the case of train departure without the complete protection of the protection system;

the mitigating actions to be adopted in the case of slowdowns affecting detoured routes.

G.2 Feedback from parties concerned

Verification of the adoption by Railway Undertakings of the common method defined by Commission Regulation (EC) No 352/2009 identified a number of frequent nonconformities that demonstrated an incomplete understanding by operators of the main contents of the Regulation. To improve this circumstance, the Authority updated the competencies of Managers of Safety Management Systems qualified pursuant to the Annex to the ANSF Decree No 4/2011 of 25/3/2011 'Regulations for the qualification of the Safety Management System Manager' in April 2013. This update concerned training on the correct adoption of Commission Regulation (EC) No 352/2009 (relating to the risk evaluation methodology) and subsequent monitoring of learning by all participants, in order to maintain the qualification.

The number of participants and outcomes of this test showed that, despite evident interest and a greater awareness of the issue addressed, operating capacity in adopting the Regulation still calls for improvement.

G.3 Review of the national safety rules to take account of the EU regulation on the common safety method for risk evaluation and assessment

(pro memoria)



PART H – DEROGATIONS IN RELATION TO THE ECM CERTIFICATION PROGRAMME

The Authority did not grant any derogations concerning the identification and relative certification of Entities in Charge of Maintenance as provided for by paragraph 8 of Article 14 bis of the Directive 2008/110/EC, as none of the following cases referred to by the Directive were reported in 2013:

vehicles registered in a third country and maintained according to the law of that country;

vehicles which are used on networks or lines whose track gauge is different from that of the main rail network within the Community and for which fulfilment of the requirements referred to in paragraph 3 are ensured by international agreements with third countries;

vehicles identified in Article 2(2), and military equipment and special transport requiring an special national safety authority permit to be delivered prior to the service. In this case derogations shall be granted for periods not longer than five years.

ANNEX B

LEGISLATIVE CHANGES IN 2013 Table 1

CHANGES MADE TO THE RSD	Transposed (Yes/No)	Legal reference	Date of entry into force
Directive 2004/49/EC	YES	The LAW DECREE No 69 of 21 June 2013 (in the Ordinary Supplement No 50 relating to the Gazzetta Ufficiale No 144 of 21/06/2013) converted with amendments by Law No 98 of 9 August 2013 (in the Ordinary Supplement No 63 relating to the Gazzetta Ufficiale No 194 of 20/08/2013), establishes (with Article 24, paragraph 3-bis) the introduction of paragraph 3-bis Article 12 (The changes as per paragraph 2 cannot establish safety levels other than the minimum levels defined by CSTs, unless accompanied by an estimate of necessary additional and by analysis of the economic and financial sustainability for the infrastructure manager and for railway undertakings, along with reasonable estimates of relative implementation times).	21/08/2013
		LAW No 97 of 6 August 2013, (Gazzetta Ufficiale No 194 of 20/08/2013) establishes (with Article 28, paragraph 1, letter a)), the amendment to Article 20, paragraph 1, subsection 2, 3, the introduction of paragraph 2-bis to Article 20 (Investigation status – role of investigators), the amendment to Article 21 (Investigation procedure).	04/09/2013
Directive 2008/57/EC	YES	LEGISLATIVE DECREE NO 21 of 8 February 2013: Amendments to Legislative Decree No 191 of 8 October 2010 on the implementation of the Directives 2008/57/EC and 2009/131/EC on the interoperability of the EU rail system. (Gazzetta Ufficiale No 61 of 13-3-2013) – Amendment to Article 8 (Derogations relating to the application of TSIs), Article 22 (Supplementary authorisations for the placing in service of vehicles conforming to TSIs), Article 24 (Supplementary authorisations for the placing in service of vehicles not conforming to TSIs).	14/03/2013
		DECREE of the Ministry for Transport of 5 September 2013: Implementation of the	29/10/2013



CHANGES MADE TO THE RSD	Transposed (Yes/No)	Legal reference	Date of entry into force
		Directive 2013/9/EU, amending Annex III to the Directive 2008/57/EC of the European Parliament and of the Council. (Gazzetta Ufficiale No 241 of 14-10-2013).	
Directive 2008/110/EC	YES		
Commission Directive 2009/149/EC	YES		

Table 2

LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
Concerning National Safety Authorities	Mutual Recognition Agreement of 25/10/2013 for authorisation for the placing in	26/10/2013	Agreement between the national railway safety authorities of Austria and Italy relating to the process of mutual recognition for authorisation for the placing in service of	
	service of vehicles between Austria and Italy.		locomotives and passenger vehicles.	
Concerning NoBo, DeBo, AB, third parties for registration, examination, etc.	ANSF Decree No 5/2013 of 24 December 2013	25/12/2013	Accreditation in a capacity as Training Centre of the company Italcertifer S.p.A.	



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	ANSF Decree No 4/2013 of 31 July 2013	1/8/2013	Accreditation in a capacity as Independent Safety Auditor of BUREAU VERITAS ITALIA S.p.A.	
	ANSF Decree No 3/2013 of 26 July 2013	29/7/2013	Accreditation as a training centre of the company SERFORM Sagi.	
	ANSF Decree No 2/2013 of 23 July 2013	24/6/2013	Accreditation in a capacity as Independent Safety Auditor of the company Italcertifer S.p.A.	
	ANSF Decree No 1/2013 of 15 April 2013	16/4/2013	Accreditation in a capacity as Training Centre of the company Athena S.r.l.	
Concerning RU/IM/ECM	ANSF Decree No 04/2012 of 09 August 2012	1/1/2013	Issue of 'Powers for railway traffic safety' and 'Regulations for the qualification of staff used in railway traffic safety activities'.	Completion of the process to reorganise regulations overseen by ANSF.
	Guidelines for the authorisation of CCS systems on the railway goods corridor 1	13/12/2013		Harmonisation processes of APIS between the NSA of states concerned with corridor 1.
	ANSF guidelines on authorisation for the placing in service of vehicles, structural subsystems or parts thereof	08/08/2013		Regulate APIS processes under the responsibility of ANSF.
	ANSF guidelines for the application of	30/1/2013		Provide guidelines for the application of the text



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	regulations for the qualification of staff used in railway traffic safety activities			issued with the decree ANSF No 4/2012 'Regulations for the qualification of staff used in railway traffic safety activities'.
	Memo ANSF 006279/2013	28/08/2013	Qualification of staff performing non- destructive testing (NDT) for railway maintenance.	Definition of criteria to apply ANSF guidelines No 02/2012.
	Memo ANSF 006265/2013	27/08/2013	Visual acuity for the formation of trains, coupling and uncoupling of vehicles and shunting of rolling stock and the use of prostheses to correct vision.	Definition of visual acuity requirements.
	Memo ANSF 00530/13	31/01/2013	Overcrowding of passenger coaches.	Reference to the adoption of necessary measures in the case of the overcrowding of passenger coaches.
	MemoANSF 0044/2013	02/01/2013	Obligations of operators following the issue and entry into force of Decree 4/2012 of this Authority and of texts attached to it.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 00226/2013	28/03/2013	Obligations of Railway Undertakings following the issue and entry into force of Decree 4/2012 of this Authority and of texts attached to it.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 01502/2013	01/03/2013	Publication of the reference systems and obligations of operators.	Monitoring of the enactment of ANSF Decree No 4/2012.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 002333/2013	29/3/2013	Reorganisation of regulations – provisions and requirements issued by Railway Undertakings.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 002437/2013	4/4/2013	Reorganisation of regulations – decommissioning of operating contexts that do not conform to Decree No 4/2012.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 002606/2013	10/4/2013	Publication of interface regulations and the reference system.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 003052/2013	29/4/2013	Reorganisation of regulations. Alignment of the systems of operating provisions and requirements of the Infrastructure Manager (including interface procedures) with Decree No 4/2012.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 003053/2013	29/4/2013	Reorganisation of regulations. Alignment of the systems of operating provisions and requirements of Railway Undertakings with Decree No 4/2012.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 003084/2013	30/4/2013	Operating provision Ref RFI- DTC\A0011\P\2013\0001343 of 24/04/2013. Suspension of the application of Article 2, paragraph 2, letter 'd' of the operating instruction No 01/2013 of 14 February 2013.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 003502/2013	15/5/2013	Reorganisation of regulations: transmission of drafts concerning interface procedures.	Monitoring of the enactment of ANSF Decree No 4/2012.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 005569/2013	23/7/2013	RFI operating instruction No 9 of 21/05/2013.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 005909/2013	2/8/2013	Operating requirement. Slowdowns affecting detoured routes.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 006041/2013	7/8/2013	Erroneous references to regulations no longer in force in operating provisions issued by Trenitalia .	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 006327/2013	30/8/2013	Operating instruction of 03/2013 – Improper use of the term 'reference system'.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 006338/2013	2/9/2013	Operating instruction No 12 of 26 July 2013.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 006457/2013	10/9/2013	Clear differentiation of operating instructions and provisions in reference system documents.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 006464/2013	10/9/2013	Differentiation of operating instructions and provisions in reference system documents. Improper use of the term 'reference system'.	Monitoring of the enactment of ANSF Decree No 4/2012.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 006691/2013	19/9/2013	Obligation to make Article 2, paragraph 2, letter d) of RFI operating instruction No 01/2013 of 14/02/2013 consistent with the Regulation for the Running of Trains.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 007175/2013	8/10/2013	Reorganisation of regulations.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 007398/2013	17/10/2013	Article 8 of RFI operating instruction No 12/2013.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 007524/2013	23/10/2013	Transmission of operating instructions and requirements to be filed by this Authority.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 008088/2013	12/11/2013	Operating instruction No 14 of 4 November 2013.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 008405/2013	22/11/2013	RFI operating instructions No 12/2013 and 14/2013.	Monitoring of the enactment of ANSF Decree No 4/2012.
	MemoANSF 009326/2013	20/12/2013	Operating instruction No 15 of 5 November 2013.	Monitoring of the enactment of ANSF Decree No 4/2012.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 00228/2013	9/1/2013	Computerised production of forms M3, M40 and the summary of movement requirements.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 00300/2013	14/01/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 00494/2013	21/01/2013	Use of electronic media to replace hard copy documents.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 00515/2013	22/01/2013	Control of the physical requirements for staff performing safety activities.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 00622/2013	25/01/2013	Train driver training – Rail operating safety.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 00744/2013	31/01/2013	Failure to complete the upgrading of rolling stock for passenger transport to all safety requirements concerning passenger access doors.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 00813/2013	04/02/2013	Maintenance of passenger access doors and their safety devices.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01126/2013	18/02/2013	The occurrence and management of the poor functioning of passenger access doors and their safety devices.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01311/2013	25/02/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01336/2013	26/02/2013	Rail accidents caused by road vehicles falling on the railway track.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 01351/2013	26/02/2013	Erroneous scheduling of routes and erroneous dispatch of trains.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01352/2013	26/02/2013	Verification of the correct adoption of regulations in force during works with scheduled interruptions.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01392/2013	27/02/2013	Operating incidents in the case of snow on the HS infrastructure.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01454/2013	28/02/2013	Request for clarifications concerning the Lunga Percorrenza Trenord service.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01470/2013	01/03/2013	Transit of trains in busy areas.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 01595/2013	05/03/2013	Use of electronic media to replace hard copy documents.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01596/2013	05/03/2013	Use of electronic media to replace hard copy documents.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01568/2013	05/03/2013	Request for information regarding failure to comply with operating instructions and requirements.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01610/2013	06/03/2013	System to control driving crew supervision.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 01613/2013	06/03/2013	Use of electronic media to replace hard copy documents.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF	07/03/2013	Undue opening of all doors on both sides of	Measures for railway
	01655/2013		train 20908 during operation.	operators concerning
				problems identified with
				possible effects on rail
				safety.
	MemoANSF	20/03/2013	General application SSC/SCMT BL3 of supply	Measures for railway
	02012/2013		GETS – NC 304.	operators concerning
				problems identified with
				possible effects on rail
				safety.
	MemoANSF	22/03/2013	Erroneous scheduling of routes and erroneous dispatch of trains.	Measures for railway
	02089/2013			operators concerning
				problems identified with
				possible effects on rail
				safety.
	MemoANSF	2/4/2013	Regulations for the running of trains	Measures for railway
	002381/2013		comprising 'historical' rolling stock.	operators concerning
				problems identified with
				possible effects on rail
				safety.
	MemoANSF	2/4/2013	Verification of any formal inaccuracies in line	Measures for railway
	002438/2013		files.	operators concerning
				problems identified with
				possible effects on rail
				safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 002665/2013	15/4/2013	Actions following reports in the document 'Trends in railway safety in 2012'.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 002871/2013	22/4/2013	Lines between state borders and station connecting with the adjoining network and access to these lines.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 002986/2013	26/4/2013	Driver's cabs with critical aspects for signal visibility – Cancellation DEIF 29.1.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 003501/2013	15/5/2013	VMC function – clarification concerning the risk evaluation request.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 004030/2013	31/5/2013	Device to control driving crew supervision.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 004174/2013	6/6/2013	Operating requirement. Operation of trains at the Bologna HS and Reggio Emilia HS Mediopadana stations.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 004276/2013	12/6/2013	Presence of obstacles on the tracks between Tombolo and Livorno Calambrone.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 004277/2013	2/6/2013	Technological deterioration at the Grisignano di Zocco station.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 004279/2013	12/6/2013	Request for information concerning the queuing of trains on the Milan-Bologna HS line.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 004357/2013	13/6/2013	Proposal to plan measures to increase safety levels at level crossings of the national railway undertaking.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	MemoANSF 004775/2013	26/6/2013	Irregularities in the lead sealing of the safety equipment override switch (CEA).	Measures for railway operators concerning problems identified with possible effects on rail safety.
	MemoANSF 004803/2013	27/6/2013	Monitoring of trains with on-board train protection systems not enabled due to on- board subsystem failure.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 005111/2013	8/7/2013	Failure to observe Decree 4/2012.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 005571/2013	23/7/2013	SPAD train 57662 of 28/06/2013 – Passing a red light at a signal with a Red/Yellow/Yellow configuration.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 005730/2013	29/7/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	Memo ANSF 005750/2013	30/7/2013	Transit of a train over a level crossing with raised barriers.	Measures for railway operators concerning problems identified with possible effects on rail
	Memo ANSF 005908/2013	2/8/2013	Tablet computer trial – stage 2, step 1 ter.	safety. Measures for railway operators concerning problems identified with possible effects on rail
	Memo ANSF 005997/2013	6/8/2013	VMC function – clarification concerning the risk evaluation request.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 006257/2013	27/8/2013	Reported infringement of the Instruction RFI 25/2007 concerning the on-board train crew knowledge of lines.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 006333/2013	2/9/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	Memo ANSF 006359/2013	3/9/2013	Tablet computer trial – step 1 ter.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 006786/2013	23/9/2013	Request for clarifications concerning the malfunction of GSM-R coverage on the Roma-Firenze DD line.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 006787/2013	24/9/2013	Operating measures in the case of snow on the HS infrastructure.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 006789/2013	24/9/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 006824/2013	25/9/2013	Slowdowns affecting detoured routes.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 007117/2013	4/10/2013	Operating requirement. Special regulations for the transit of the ALN 501 DMU <i>Minuetto</i> diesel train along the Salerno-Arechi route of the Salerno metropolitan line.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	Memo ANSF 007172/2013	8/10/2013	Request for information concerning the queuing of trains on the Milan-Bologna HS line.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 007174/2013	8/10/2013	Maintenance of rolling stock – Competencies of staff operating on safety-related components.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 007339/2013	16/10/2013	Information reported by a passenger on Trenitalia HS trains on the Torino-Milano route.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 007760/2013	30/10/2013	Ineffectiveness of the centralised operating system for doors on standard service trains as regards the communicating doors at the start and end of the train.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 007942/2013	6/11/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	Memo ANSF 008086/2013	12/11/2013	Request for information concerning the queuing of trains on the Milan-Bologna HS line. ANSF 008116/2013 tablet use.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 008431/2013	25/11/2013	Verification of any formal inaccuracies in line files.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 008513/2013	26/11/2013	SBB Cargo Italia. EC Regulation No 352/2009, ANSF Directive 1/2012.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 008927/2013	10/12/2013	Request for urgent action.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 009126/2013	16/12/2013	Irregularities in reporting and notifying slowdowns.	Measures for railway operators concerning problems identified with possible effects on rail safety.



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	Memo ANSF 009145/2013	16/12/2013	Safety notices on rail vehicles.	Measures for railway operators concerning problems identified with possible effects on rail safety.
	Memo ANSF 009368/2013	23/12/2013	Trains operated by only one driver.	Measures for railway operators concerning problems identified with possible effects on rail safety.
Implementation of other EU requirements (if concerning rail safety)	Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013	21/12/2013	Guidelines for the development of the transEurope transport network .	Abrogation of Decision No 61/2010/EU.
	Commission Implementing Regulation (EU) No402/2013 of 30 April 2013	21/05/2015	Common safety method for risk evaluation and assessment.	Repeal of Commission Regulation (EC) No 352/2009.
	Commission Regulation (EU) No 1078/2012 of 16 November 2012	7/6/2013	Common safety method for monitoring to be applied by railway undertakings, infrastructure managers after receiving a safety certificate or safety authorisation and by entities in charge of maintenance.	New document.



LEGISLATION AND REGULATIONS	Legal reference	Date of entry into force	Description of the change	Reasons for the change
	Commission Regulation (EU) No 1077/2012 of 16 November 2012	7/6/2013	A common safety method for supervision by national safety authorities after issuing a safety certificate or safety authorisation.	New document.