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|  | Safety Report |

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Foreword

This report has been prepared to satisfy the obligation imposed on EPSF pursuant to Article 17 of amended Decree 2006-1279 of 19 October 2006 to draw up and send a report on railway traffic safety for the past calendar year to the Ministry of Transport, BEA-TT and the European Railway Agency before 30 September of each year.

It is based on the information received before 30 June of each year from the railway undertakings and infrastructure managers in their respective annual safety reports, and on the information collected by the EPSF directorates on their own activities.

In order to facilitate its preparation, EPSF provided all the undertakings with a data analysis template in January 2014, and set up a meeting timetable to enable a fruitful exchange of information.

This report is published in the section entitled ‘Les données chiffrées de la sécurité’ (Quantified safety data) on the EPSF website at the following address: [www.securite-ferroviaire.fr](http://www.securite-ferroviaire.fr/)

1. Introduction

The most significant event in 2014 was a catch-up collision between a TER Regional Express Train and a TGV High Speed Train in the district of Denguin (64) on 17 July. Forty people were injured, four of which seriously, as a result of this collision, which also caused serious damage to the rolling stock. A technical investigation into this accident was opened by BEA-TT. The initial findings highlighted a signalling system failure. SNCF Réseau very quickly launched a verification campaign on all of the network’s signalling centres. This campaign essentially consisted in checking the condition of the equipment present, in particular: the good condition of the electrical wiring and cables, the electrical insulation of the installations and the possible presence of rodents.

In 2014, the total number of people killed or seriously injured was down compared with 2013. This number stood at 139 on the French railway network in 2014, compared with 157 in 2013. This improvement results from a decrease in the number of people killed, which fell to its lowest number on record since 2006. The overall human impact (deaths and serious injuries) shows that the performance in 2014 was better than the national reference value (NRV) target set by the European Commission regarding risk to society as a whole. Nevertheless, particular attention must be paid to the ‘unauthorised persons’ category, which continues to represent nearly half of the people killed or seriously injured by rail traffic.

The number of significant accidents increased markedly in 2014, amounting to 177 compared with 146 in 2013. This increase was noted in most of the different accident categories (collisions, derailments, accidents at level-crossings). These changes are analysed in detail in sub-chapter 3.2 (Safety level monitoring).

In 2014, Law No 2014-872 of 4 August 2014 on railway reform was passed. This reform means that the historical operators must re-organise themselves profoundly, providing an opportunity to optimise the system’s organisation for the benefit of railway safety.

The commitment in favour of railway safety made by the Secretary of State in charge of transport was materialised in 2014 by the launch of an action plan and the creation of a follow-up committee made up of high-level representatives of the railway sector and chaired by the Secretary of State. This commitment illustrates the high priority given to railway safety by government policy.

1. Description of the network and traffic

As the French safety authority, EPSF carries out its railway traffic inspection and supervision missions on the French railway network and on the lines defined by Decree 2010-1201 of 12 October 2010, which corresponded in 2014 to the French part of the international section between Perpignan and Figueras.

* 1. The national railway network

At the end of 2014 the national railway network (RFN), which is owned by SNCF Réseau, totalled 29,299 km of lines in operation, that is to say lines open to commercial traffic.

This network is characterised by a highly developed network of high-speed lines, totalling 2,048 km. These lines, dedicated to passenger traffic, correspond to the country’s main traffic flows. This high-speed network, connected to the conventional network, makes it possible to serve a large part of the country and ensure international links with England and northern Europe.

About half of the network’s lines (15,995 km) are electrified including 10,058 km by 25,000 V catenaries, 5,805 km by 1,500 V catenaries and slightly more than 100 km by a third rail.

Every year SNCF Réseau publishes the network’s Reference Document, detailing its network’s technical characteristics and indicating the entry, train path allocation and pricing conditions.

* 1. Perpignan-Figueras international section

The Perpignan-Figueras international section, licensed to the TP Ferro company by the Spanish and French governments, is part of the trans-European network. It is about 45 km long and is connected to each of the countries’ national networks.

The part of this section that is in France consists of:

* two single tracks for the connections with the conventional French network at Le Soler;
* a 17.2 km open-air double-track section running from Le Soler to the entrance to the Perthus Tunnel;
* 7.4 km of cross-frontier bi-tube tunnel (Perthus Tunnel).

Every year TP Ferro publishes the network’s Reference Document, the goal of which is to provide general information on TP Ferro’s railway infrastructure for the companies wishing to access said infrastructure.

* 1. Access to the network and traffic data

At the end of 2014, 33 railway companies held a safety certificate and were therefore authorised to carry out railway transport on the RFN. The number is up with respect to the 29 railway companies authorised at the end of 2013.

The number of million train-km in 2014 was down by 1.6% with respect to the previous year.



|  |  |
| --- | --- |
| Traffic en millions de train-km | Traffic in millions of train-km |

The ‘passenger’ traffic, expressed in billions of passenger-km, has been falling continuously since 2011 by about 1% a year.

‘Passenger’ traffic in billions of passenger-km



|  |  |
| --- | --- |
| Trafic « voyageurs » en milliards de voyageur-km | ‘Passenger’ traffic in billions of passenger-km |

1. Safety report for 2014
	1. Significant accidents and incidents

17 JULY

Catch-up collision between a TER regional express train and a TGV high speed train at Denguin (64). TER train 867 285 caught up with TGV 8585 in the district of Denguin and collided with it at a speed of approximately 90 km/h while the latter was running on-sight. This collision resulted in 18 people being injured, three of whom seriously. BEA-TT launched a technical investigation into this accident.

9 DECEMBER

Deviation of a commuter train at full speed on to a service track in Saint-Germain-en-Laye (78). At the time of this first service of the day from Poissy a passenger train passed points 116 at the Achères control centre running in the direction of a service track at 87 km/h (instead of the 30 km/h stipulated) whereas the route is plotted on a direct track in the direction of track 2 bis. BEA-TT launched a technical investigation into this incident.

9 DECEMBER

Collision between a TER regional express train and an articulated lorry in Montauban (82). TER train 871 833 ran into a lorry immobilised at the level of LC 169 at 147 km/h, on the way out of Montauban station. The train derailed further to the impact, encroaching on the adjacent track 2 and a fire broke out under the train. The steward, assisted by passengers, put out the outbreak of fire using the on-board fire extinguishers and helped the people to evacuate the smoke-filled train. The train was carrying 105 people and 11 were injured, one of whom seriously. The driver of the lorry (12 tonnes) was unhurt. BEA-TT launched a technical investigation into this accident.

15 DECEMBER

A TER train was hit by a works train shunting at Saint-Germain-des-Fossés (03). On the point of departing for Clermont-Ferrand with 80 people on-board, TER 873 355 was at a halt when it was hit by a works train that was manoeuvring in the station. Seven people were injured: four operatives on the works train and three passengers on the TER. BEA-TT launched a technical investigation into this accident.

**The Denguin accident**

On 17 July 2014 at about 17:30, TER No 867285 caught up with and ran into TGV No 8585 in Denguin (64), on track 1, between Pau and Artix. Forty people were injured in this collision, four of whom seriously.

The internal investigation carried out by SNCF[[1]](#footnote-1), in parallel with the criminal investigation and the investigation conducted by BEA-TT, found that the opening of semaphore 23 to ‘track free’, when the length of track it protects was occupied by TGV No 8585, was the direct cause of this catch-up. A chance contact between two electrical wires, partially stripped by rodents, could be the cause of the untimely powering of semaphore 23’s command relay to track free.

**Actions taken**

On 18 July 2014, in view of the information brought to its knowledge (including untimely closing of semaphore 23 track 1 at the same time as another TER was running on track 2, shortly before the accident), EPSF asked SNCF to take immediate precautionary measures making it possible to guarantee the safety of the railway traffic on tracks 1 and 2, without using the signalling installations ensuring partly permissive automatic block type restrictions, in order to guarantee safety until all the causes of the malfunctions had been identified and appropriate corrective measures taken.

The technical investigations and tests performed further to the accident make it possible to state that the malfunction at the origin of the accident was limited to the signalling centre commanding semaphore 23.

Replacement of this centre along with the tests carried out on the system as a whole that were subsequently performed led EPSF to authorise the lifting of the precautionary measures on 18 September 2014.

On 25 July 2014, SNCF also launched a campaign to check all of the network’s signalling centres. This consisted of verifying the condition of the equipment present (in particular the good condition of the electrical wires and cables), the electrical insulation and the possible presence of rodents.

At the end of 2014, on the basis of consolidated data, nearly 32,000 centres[[2]](#footnote-2) were therefore verified out of the 41,500 centres that must be checked.

The first results of this verification campaign indicate in particular that slightly more than 30% of the centres show traces of rodents and that nearly 4% of the centres had wires that had been gnawed at.

Besides the temporary repairs that were carried out further to these findings, SNCF engaged additional resources for strengthening the maintenance of these centres, so that all the necessary definitive repairs could be made independently from the in-depth actions otherwise engaged.

* 1. Monitoring of the level of safety
		1. Report on the consequences of accidents

The tables below show the number of people killed or seriously injured at the time of railway accidents, according to the categories stipulated by the common safety indicators (CSI).

**Number of people killed or seriously injured between 2010 and 2014**

|  |  |
| --- | --- |
|  | **People killed** |
| 2010 | 2011 | 2012 | 2013 | 2014 |
| Passengers | 1 | 7 | 2 | 4 | 0 |
| Personnel | 1 | 2 | 6 | 3 | 1 |
| Level-crossing users | 27 | 29 | 33 | 29 | 25 |
| Unauthorised persons | 37 | 50 | 33 | 45 | 36 |
| Others | 0 | 0 | 0 | 4 | 3 |
| **Total** | 66 | 88 | 74 | 85 | **45** |

|  |  |
| --- | --- |
|  | **People seriously injured** |
|  | 2010 | 2011 | 2012 | 2013 | 2014 |
| Passengers | 7 | 14 | 6 | 31 | 12 |
| Personnel | 4 | 5 | 6 | 2 | 8 |
| Level-crossing users | 17 | 9 | 10 | 19 | 26 |
| Unauthorised persons | 11 | 23 | 11 | 16 | 24 |
| Others | 2 | 2 | 4 | 4 | 4 |
| **Total** | 41 | 53 | 37 | 72 | 74 |

In 2014, the total number of people killed or seriously injured was down with respect to 2013. It amounted to 139 on the RFN network, compared with 157 in 2013 and 111 in 2012. This result is the consequence of the fall in the number of people killed, which fell to the lowest value recorded since 2006. The fall recorded in every category of people is particularly marked for passengers, where the figure 0 has been seen for the first time since 2006 concerning the deaths and for unauthorised persons for whom the number of deaths in 2013 was high.

However the number of people seriously injured was up significantly in the ‘employees’, ‘level-crossing users’ and ‘unauthorised persons’ categories. Like for the number of people killed, the number of people seriously injured in the ‘passengers’ category fell significantly and returned to a level close to that of the years before 2013 which was marked by the Brétigny-sur-Orge accident. The change regarding the numbers of people killed and seriously injured per million train-km presented in the graph below shows the same trend.

**Number of people killed and seriously injured per million train-km**



|  |  |
| --- | --- |
| Tués | Killed |
| Blessés graves | Seriously injured |
| MBGP | FWSIs |
| VNR6 | NRV6 |

The graph above also shows the trend since 2010 of the ‘Fatalities and Weighted Serious Injuries’ (FWSI indicator - see definition in Annex 1) used for assessing the common safety targets (CST) defined within the European Union. In 2014, this indicator, corresponding to risk to society as a whole, reached a value of 0.145, which is lower than the national reference value (NRV6). The national reference value for France regarding risk to society as a whole was set at 0.18 per million train-km by the Commission Decision of 23 April 2012 on the second set of CSTs as regards the rail system.

* + 1. Accident occurrence rate

Relative number of accidents per million train-km



The relative number of significant accidents in 2014 was 0.36 accidents per million train-km. Although this figure had been falling continuously since 2010, it was up for the second consecutive year, increasing by 24% between 2013 and 2014.

This deterioration results from the combination of two phenomena:

* Increase in the total number of events, which increased from 146 in 2013 to 177 in 2014. The categories contributing to this increase are collisions, derailments, accidents at level crossings and accidents classified in the ‘Other’ category.
* To a lesser extent, the 1.6% decrease in the amount of traffic with respect to the previous year.

**The distribution of significant accidents by type is provided in the table below.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2010 | 2011 | 2012 | 2013 | 2014 |
| Collisions | 15 | 12 | 18 | 10 | 29 |
| Derailments | 20 | 13 | 16 | 11 | 15 |
| Accidents at level crossings | 36 | 40 | 38 | 42 | 51 |
| Accidents caused by moving rolling stock | 64 | 76 | 51 | 64 | 63 |
| Fires in rolling stock | 6 | 2 | 1 | 8 | 2 |
| Others | 14 | 11 | 14 | 11 | 23 |
| **Total** | 155 | 154 | 138 | 146 | 177 |

These data are in line with the CSIs as defined in Annex 1 of Directive 2004/49/EC. In line with these definitions, the accident indicators given in this paragraph only concern significant accidents. Where necessary, corrections have been made to take account of the new facts or classification inaccuracies discovered after publication of the 2013 safety report.

The total number of significant accidents increased by 21.2% with respect to 2013. The higher number of collisions, ‘other’ accidents and, to a lesser extent, derailments and accidents at level crossings can explain this increase. The number of accidents caused by moving rolling stock, although high because this still represents one third of all accidents, remained stable with respect to the previous year. Following a substantial increase in 2013, the number of fires in moving rolling stock decreased strongly (from 8 to 2) and returned to the level observed in 2011 and 2012.

The rest of this section is dedicated to analysing the trends observed in 2014 for each type of accident.

Relative number of collisions per million train-km



Relative number of derailments per million train-km



With respect to 2013, the greatest increase observed concerns train collisions which, until now, had tended to be on the decrease. Detailed analysis of the types of collisions, besides the significant collisions taken on their own, which includes the Denguin accident on 17/07 (see significant events), shows that more than half concern impacts with infrastructure components, notably between pantographs and catenaries and locomotives running into buffers.

Concerning derailments, the analysis of the increase noted in 2014 does not highlight any particular items making it possible to explain this trend.

Relative number of accidents at level crossings per million train-km



Relative number of accidents involving people caused by moving rolling stock per million train-km



The first two categories of events correspond to those that represent the vast majority of significant accidents. In relation to traffic, the increase in the number of accidents at level crossings was significant, as shown in the graph above. Amongst the collisions at level crossings, those involving pedestrians increased very significantly (by about 20% among all accidents at LCs). The behaviour of road users is the cause of a great majority of these accidents. The relative number of accidents involving people caused by moving rolling stock is stable and stands at 0.129 accidents per million train-km, a value very close to the average observed over the last five years (see Annex 2).

Relative number of fires on rolling stock per million train-km



Relative number of ‘other’ accidents per million train-km



Following a significant increase in 2013, the number of fires on rolling stock fell back to a level equivalent to 2011. However, 2014 saw a resurgence in the number of ‘other’ accidents which, for nearly half, correspond to derailments while shunting on service tracks. The two main causes explaining these derailments are the condition of the track and non-observance by the railway undertakings of the operating rules (non-verification of the route, chock not removed, etc.).

* + 1. Precursor events

The CSIs include a category dedicated to the precursor events leading to collisions or derailments defined in Annex 1 of Directive 2004/49/EC, which includes rail breakages, track buckling, signal failures, running through closed signals without being authorised to do so and in-service breakage of the rolling stock’s wheels and axles whether they caused an accident or not. It is important to note that this non-exhaustive list of five types of events adopted in the precursor category focuses more particularly on the condition of the infrastructure (three types out of five).

**Relative number of precursor events per million train-km**



The relative number of precursor events per million train-km observed in 2014 (1.84) decreased with respect to 2013 (2.08), following a continuous increase over the last three years.

Rail breakages are down significantly (-27% with respect to 2013). This results from the mild temperatures that prevailed in 2014 and from the effects of the ‘high-side rails’ action plan implemented in 2012 by SNCF. This plan was implemented because an increase in breakages owing to so-called ‘high-side’ defects had been observed. These are defects affecting the rail’s high side which, in a bend, is the side supporting the greatest axle weight, and is therefore subject to a greater force. The actions taken concerned increased ultrasound inspections, a specific treatment of the defects detected and the replacement of rails in the most critical zones (an additional EUR 20 million spent each year over three years). The improvement concerning track buckling continued in 2014, achieving its best value over the last eight years.

Following a continuous increase in the number of signalling failures since 2008, this trend was reversed in 2014; however this reversal was not observed in the five-year rolling average.

Furthermore, safety management actions linked to the track maintenance and works function have been defined and implemented in the framework of the Vigirail plan launched in October 2013 by SNCF Réseau. This programme aims in particular to strengthen the monitoring, modernise the maintenance and the training of the maintenance staff, and speed up the replacement of switch points. It includes the responses to the recommendations made by BEA-TT in its interim report dated 10 January 2014 on the train derailment that occurred in Brétigny-sur-Orge on 12 July 2013.

**Relative number of infrastructure precursor events per million train-km**



Lastly, the total number of times stop signals were passed has increased over the last three years, particularly regarding red squares, which are among the most serious. Figures for the third quarter 2014 are very much higher than those for the equivalent quarters in 2012 and 2013, which has led EPSF to propose the setting up of a working group to establish a common framework for analysing events of this type. This will make it possible to list the causes of these events in a consistent way and then trigger appropriate actions accordingly. In parallel, SNCF Réseau is examining the needs for implementing loopbacks (KVB type, command-based speed control) by completing the equipment on certain tracks and certain locomotives that are still not fitted with this system.

1. Improvement and railway safety initiatives
	1. The Ministry’s action plan for railway system safety, creation of a follow-up committee

On 9 September 2014, further to the meeting bringing together the key stakeholders in the French railway sector in the EPSF’s offices, on the subject of railway safety, the Secretary of State for Transport, Alain Vidalies, presented ‘The action plan for railway system safety’ resulting from a strategic safety audit carried out in 2013 at the request of the Ministry in charge of Transport and under the responsibility of EPSF. This plan is broken down into four areas:

* railway system organisation;
* railway system regulations;
* the men and women in the railway sector;
* work-site safety.

All stakeholders were asked to commit themselves fully to ensuring the success of this plan. A follow-up committee was set up comprising the most senior representatives of the railway sector. This committee monitors the progress made with this plan and provides half-yearly reports on the actions taken to the Secretary of State. This committee also examines the implementation of the recommendations made by BEA-TT.

* + 1. Railway system organisation

Over the last few years, the railway system has gone through profound changes, with an increase in the number of stakeholders, and therefore in the number of interfaces. This has resulted in a need for a cross-cutting approach including greater coherence and coordination between operators in order to provide appropriate and collective answers to shared safety concerns. To achieve this, the EPSF’s role as general overseer was confirmed by the State, notably concerning feedback.

In order to deal with the interface aspect, it is also necessary that each stakeholder should carry out risk assessments that include risks at the interfaces. In its role as national safety authority, EPSF must strengthen systemic audits covering multi-stakeholder issues with a view to identifying anomalies and areas for progress.

Introducing the ‘single infrastructure manager’, in the framework of railway reform, was also identified as being an optimisation of the system’s organisation to enhance safety. Backed up by a specific safety structure, this single infrastructure manager will be able to assume its responsibilities fully in the area of safety over all of its activities.

* + 1. Railway system regulations

The plan requests the *Union des transports publics et ferroviaires* (UTP) to produce a summary of the profession’s analyses which identifies possible solutions to pool the means of drafting their operational documents. Indeed, each railway undertaking draws up its own operational documents, although some of the topics covered are common to all stakeholders and could therefore be the subject of common operational documents placed at the disposal of the sector.

* + 1. The men and women in the railway sector

The safety of the railway system continues to rely heavily on the competence and know-how of the men and women working in the railway sector. Maintaining a high level of competence and awareness of risks are key elements of safety. Understanding the rules and the risks they help mitigate is fundamental for effective risk management. This must be taken into account right from the training stage and then in the management of the operators to raise their awareness on the importance of complying with the rules.

Managerial communication is an essential element for strengthening safety, and safety recommendations issued by managers are essential to continually focus attention on risks and safety. Communication between stakeholders with a view to sharing their experience must also be strengthened in order to improve safety.

* + 1. Work-site safety

The issue of safety regarding work-sites, the volume of which will continue to increase over the coming years, is among the key priorities. The actions with a view to improving the overall management of safety on work-sites, such as closer monitoring of the service providers or greater precision in the contracts, and the application of concrete measures for collaborating better on these work-sites, must be pursued, driven by the Infrastructure Manager, the *Fédération nationale des travaux publics* (FNTP - National Public Works Federation) and the *Syndicat des entrepreneurs de travaux de voies ferrées* (SETVF - Union of Railway Works Contractors).

* 1. Changes to the French, EU and international regulations
		1. Changes to the French regulations

On the national level, 2014 was marked by the adoption in France of Law No 2014-872 of 4 August 2014 on railway reform. This law creates three public establishments (SNCF, SNCF Réseau and SNCF Mobilités) within a single public railway group. The reform is leading *de facto* to a merger between the activities of *Réseau ferré de France* (RFF - Railway Network France), SNCF’s *Direction des circulations ferroviaires* (DCF - Railway Traffic Directorate) and the SNCF’s General Infrastructure Directorate, requiring an in-depth re-organisation of the historical operators. This reform means that SNCF Réseau and SNCF Mobilités must carry out a top-to-bottom review of the way their safety management system (SMS) is organised and obtain a new accreditation and safety certificate. Furthermore, this law therefore requires the modification of Decree 2006/1279 (in 2015) in particular.

* + 1. Changes to EU regulations

At EU level, concerning the rolling stock and infrastructure, 2014 was notably marked by changes to several regulations regarding the Technical Specifications for Interoperability (TSI), accompanied by an extension of their scope of application beyond the Trans-European Networks (TEN). Furthermore, the Commission has published a new decision relating to the infrastructure register, as well as revisions of the recommendations concerning, on the one hand, the method to be used to demonstrate the existing lines’ level of compliance with the TSIs’ fundamental parameters and, on the other hand, the putting into service of subsystems.

Two modifications to the EU directives have also been published: the first one in Directive 2008/57/EC on railway system interoperability aiming to merge the EC declaration on the verification of a subsystem and that on compliance with the national rules into a single EC verification declaration, and the second one in Directive 2004/49/EC on the common safety indicators (CSI) and the common methods for calculating the cost of accidents aiming to clarify the CSIs.

Lastly, concerning the certification of train drivers, Directive 2007/59/EC has been amended, modifying the requirements regarding the drivers’ eyesight, the content of their training and the exams regarding their general professional knowledge as well as their language skills.

* + 1. Changes to the rules of the Intergovernmental Organisation for International Carriage by Rail

At the international level, the Intergovernmental Organisation for International Carriage by Rail (OTIF) has modified several appendices of its convention (COTIF). It has also modified and created several uniform technical prescriptions (UTP) in order to bring the OTIF’s laws in line with those of the European Union.

* 1. Tools placed at the disposal of the operators
		1. Work on the operating rules

Through EPSF’s publications, 2014 saw the materialisation of the ideas developed in 2013 on the following themes:

* train composition;
* hot box detectors;
* switching;
* operations designated as being simple on safety installations by railway undertaking staff;
* freight transport;
* conditions for dispatching intermodal transport units;
* getting on and off trains for passenger, fall risk prevention;
* coupling and braking devices;
* information for drivers concerning infrastructure modifications.

It should be noted that each theme has been the subject of a working group that included representatives from EPSF, the infrastructure manager (ex RFF and DCF), and the railway undertakings in order to draw up a draft version to be submitted for formal consultation with the people directly concerned by the provisions of the new texts. Further to these works, 13 texts were published with acceptable means of compliance status.

Furthermore, amongst the EPSF publications in 2014, eight result from the withdrawal by SNCF Réseau of the provisions that were contained previously in the operating documentation.

In 2014, EPSF also continued, under similar conditions, to draw up draft documents on the acknowledgement of fitness for transport, wagon loading instructions, safe speed when approaching signals, incorporation into a train of works vehicles that have traffic approval, occasional running of vintage trains, composition of international freight trains between France and Germany. Some of these themes result from the requests made by the railway operators and from feedback.

Jointly with the infrastructure manager and SNCF in its capacity as delegated infrastructure manager, work began to redraft the remaining provisions of the texts that were appended to the Order of 23 June 2003 as modified relating to the safety regulations applicable on the national railway network (RFN) and which must be brought into conformity with the Order of 19 March 2012 at the latest before 31 December 2015. These works mainly concern:

* the protection of main lines;
* train traffic;
* train driving;
* electrical traction installations;
* exceptional transport.

At the request of the Ministry in charge of transport and of the sector, EPSF has also started to look at the issue of safety tasks.

These different works will result in 2015 in the publication of recommendations, best practices, technical documents and guidelines regarding non-essential safety tasks.

* + 1. Updating of the technical documentation

EPSF continued in 2014 to rewrite the recommendations on the technical rules relating to the authorisation of rolling stock in the framework of a general initiative to bring the French national rules into line with the European regulations. Various working groups were set up in 2014 with the profession’s representative bodies.

The different subjects examined led to the publication of the following ‘rolling stock authorisation specifications’ (SAM):

* 1. E 009 Provisions to assist running through separation sections
	2. E 903 Pantograph capture-interaction
	3. F 101 Eddy current brake
	4. X 009 Recognition of test results
	5. S 801 Rail / wheel contact lubrication by the rolling stock
	6. S 901 Gritting device
	7. S 301 Device for checking the driver’s wakefulness
	8. C305 Rolling stock passenger access doors
	9. S 002 Fire-fighting and prevention
	10. S 703 Signal repetition and automatic train stopping device
	11. C 304 Emergency coupling
	12. E 901 Contact brush
	13. X 001 Technical instructions, recommendations, etc.
	14. S 007 Safety tackle
	15. S 704 Recording of traffic safety-related events / Provisions on board mobile vehicles
	16. T 004 Compatibility between the electrical power supply and the rolling stock (merging of SAM T001/002/003)
	17. SAM S 006 Electromagnetic compatibility
	18. F102 Magnetic brake

Other SAMs were analysed in 2014. This resulted in certain documents relating to vehicles that do not meet the TSI requirements being left as is (and therefore not being revised).

These documents are as follows:

* F006 Dynamic brakes-Technical requirements and utilisation conditions
* F007 Immobilisation brake performance
* F017 Braking— Consistency of the technical dossier and tests
* F 009 Application of wheel / rail adhesion when braking
* F 015 Safety requirements concerning the design of braking systems
* F 018 Halt and deceleration braking performance
* F 017 Braking consistency of the technical dossier and tests
* F 503 Traction/braking slaving and in an emergency
* F 301 Command systems at the driver’s disposal

Lastly, another working group was set up in 2014 with UNECTO and SNCF with a view to updating the rules relating to operating vintage trains.

* 1. Event organised by EPSF on railway safety
		1. Safety conference

As in 2013, EPSF organised a conference on railway safety on the subject of ‘Controlling railway risks’. The conference examined for main questions: What are the functions of a safety management system? Do the TSIs cover all the railway-related risks? What means make it possible to cover the risks induced by human factors? What could be the role of maintenance in the coverage of the risks and how to assess it?

National and international representatives of the railway sector and of other transport sectors and industries at risk made valuable contributions. No fewer than 230 participants from the railway sector took part.

* + 1. EPSF publication presentation days

Four days of presentations of EPSF publications relating to the operating provisions applicable on 8 June 2014 were held in February and March 2014. They each brought together around twenty participants which ensures a good level of representativeness of the sector. An assessment was made which showed the need felt by the sector regarding the educational presentation of EPSF publications.

This type of event will be continued in 2015 for the texts relating to operating safety applicable in June and December 2015.

Furthermore, a meeting was organised with the sector to give an overall presentation of the various new features regarding the rolling stock authorisation specifications (SAM). There too, this was received favourably and another meeting will be organised in 2015.

* + 1. Discussion meetings on the works to bring the old safety documentation into line with the Order of 19 March 2012

**Quarterly meetings organised by EPSF**

Quarterly meetings provide EPSF with the opportunity to review the situation with the operators on the works to draw up the acceptable means of compliance with the Order of 19 March 2012 setting out the ‘goals, methods, safety indicators and safety technical and interoperability regulations applicable to the national railway network (RFN)’.

A good participation by the sector was noted, particularly regarding the railway undertakings. This meetings provided an opportunity for holding discussions with the sector as a whole, particularly with certain railway undertakings that do not take part in the various working groups. Besides the information aspect, they allow EPSF to better take account of the needs of the sector as a whole.

**Meetings organised with UTP**

Working meetings on these same works are held more frequently between UTP and its members, EPSF and the network managers. These meetings make it possible to raise subjects that are, or should be the object of working groups and facilitate the expression of new needs for changes to the order’s implementation provisions.

* + 1. Statutory event day

With a view to getting a good grasp of the regulations, whether European or French, EPSF organises an annual themed day, called the ‘statutory event day’.

The purpose of the 2014 statutory event day was to draw up an initial assessment of the application of the provisions of the Order of 19 March 2012 and present EPSF’s European collaboration initiatives in the area of safety. The gradual putting in place of collaboration initiatives with other national safety authorities in the area of authorisations and verifications is indeed taking on a completely new importance owing to the strengthening of the European framework.

This day also made it possible to take stock, after one year, of the application of Commission Regulation No 445/2011 on a system of certification of entities in charge of maintenance for freight wagons which, despite some difficulties with practical application, has made it possible to clearly define the obligations and responsibilities of each stakeholder.

Lastly, it provided the opportunity for presenting the provisions of the new version of the common safety method (CSM) relating to the assessment and appreciation of the risks (Commission Regulation No 402/2013) that stakeholders will have to apply starting from 21 May 2015 to assess any changes they wish to make in the framework of their activities.

* + 1. Sector information meetings on European news

The European regulatory works constitute a complex area for the sector to grasp. In the framework of its targets contract with the State, EPSF has been tasked with promoting the European regulatory framework and with disseminating it among railway sector stakeholders in France, in order to ensure this framework is fully understood and to develop best practices in the areas of safety and interoperability. Progress in the area of EU regulatory work is therefore the subject of biannual presentations; these presentations were held on 31 January and 27 June 2014 for the attention of those in charge of safety within rail sector companies.

These meetings provide an opportunity to take stock of ongoing discussions within the European Rail Agency’s (ERA) working groups — in which the national safety authorities and European organisations representative of the sector are also represented — which should enable it to send a detailed report to the European Commission.

These meetings also make it possible to discuss the content of the texts finally adopted by the European Commission and on which the representatives of the Member States have expressed themselves at the meetings of the Railway Interoperability and Safety Committee (RISC).

Presentation documents were issued at that time by EPSF to the representatives of the companies in the sector in order to facilitate the dissemination of the information within their respective companies.

* 1. ‘System’ feedback

The ‘system’ feedback event approach, driven by EPSF, continued in 2014 materialised by:

* the annual ‘REX’ feedback seminar organised by the OECD in January;
* four quarterly feedback meetings being held in Amiens;
* the issuing of 12 monthly newsletters (BIM) on the most significant ‘safety’ events;
* the triggering of ten ‘system’ feedback initiatives at the local level.

Besides all these ‘system’ feedback actions, quarterly dashboards present the quarterly trends regarding the European common safety indicators (CSI) are published on the EPSF website (quantified safety data).

In 2014, EPSF submitted 35 requests to these operators (railway undertakings and infrastructure managers) for dossiers relating to specific themes examined with them at the time of working meetings.

* + 1. The REX annual seminar and quarterly feedback meetings

The annual REX seminar held on 22 January 2014 at the OECD provided the opportunity for giving an assessment for 2013. This seminar made it possible to highlight, in particular, the analyses and trends to which particular attention must be paid. This was the case, for example, regarding the problem of signal run-throughs, the monitoring of which was discussed at all the meetings in 2014. This particular subject was the subject of discussions around presentations of actual events of this type and led to the creation of a dedicated working group.

The following were also discussed at the quarterly feedback meetings held further to the annual seminar:

* lessons learnt from the investigations carried out by BEA-TT;
* status of the alerts and progress made with the actions taken further to those alerts;
* result of the inspections carried out by EPSF and identification of the recurring points giving rise to the notification of deviations;
* analyses launched and progress made with the actions decided upon at the previous feedback meetings.
	+ 1. ‘System’ feedback initiative at the local level

In 2014 ten ‘system’ feedback initiatives at the local level were taken involving a total of six different operators. Amongst the subjects raised at these feedback meetings, the majority concerned the problem of trains running through closed halt signals and trains starting to move without the order being given. Analysis of the events and the discussions led, in most cases, to the local processing of the interface that exists between the railway undertakings and the infrastructure manager in its capacity as traffic manager.

A particular example makes it possible to illustrate the interest of this:

* The initiative was launched further to the finding that, between 2010 and the beginning of 2014, a particular signal (Cv 4224) in Dijon-Ville station had been passed six times when closed. This signal has the particularity of being located on the right and being accompanied by an arrow to help identify it. The drivers from two railway undertakings and an infrastructure manager (in the framework of weed-killing train operations) were involved in these run-throughs. All of the operators concerned met to find solutions for this problem. The discussions concerned both the signal’s special installation configuration, the use that is made of the track on which it is located and the conduct of the drivers who do not respect the signal.

It was decided to take several actions further to these discussions, amongst which modifications to the installations (visibility of the signal’s arrow, addition of a sign, etc.) some of which require design works and investment decisions. Furthermore a feedback sheet common to the railway undertakings present was drawn up. This sheet highlights a specific point in the railway driving rules, the subject of the flashing white light appeared as a factor favouring this type of driving error in these closed signal run-throughs. It was issued to all of these operators’ drivers in the first quarter 2015. The sheet was presented at the time of the quarterly REX meeting and then sent to all the participants to enrich their own feedback processes.

* + 1. Feedback from accidents and serious incidents

The feedback provided by BEA-TT on the accidents and serious incidents gave rise, within the scope of this report, to the issuing of four technical investigation reports on accidents that occurred between November 2012 and July 2013. These reports are as follows:

* interim report in January 2014 on the derailment of an Intercités train on 12 July 2013 in Brétigny-sur-Orge station (91);
* technical investigation report in April 2014 on the collision between a TER train with a mobile crane on 13 April 2013, in Marseille l’Estaque (13);
* technical investigation report in June 2014 on the collision between a TER train, a minibus and a car on 27 November 2012 in Amilly (28);
* technical investigation report in October 2014 on the derailment of a TER train on 26 June 2013 in Lyon-Guillotière (69).

In 2014, BEA-TT initiated technical investigations into the following accidents and serious incidents:

* the catch-up collision between a TER and a TGV on 17 July 2014 in Denguin (64);
* the deviation, at full speed, on to a service track, of a commuter train on 9 December 2014 in Saint-Germain-en-Laye (78) ;
* the collision on a level crossing between a TER and an articulated lorry on 9 December 2014 in Montauban (82);
* the collision between a shunting works train and a parked TER on 15 December 2014 in Saint-Germain-des-Fossés (03).

EPSF is monitoring the actions taken further to the recommendations made by BEA-TT in its reports. The pie-chart below shows the breakdown of the status of each of the recommendations: recommendations closed and those still open.

**Breakdown of the recommendations sent to the railway stakeholders by BEA-TT since 2006**



|  |  |
| --- | --- |
| Closes  | Closed  |
| Ouvertes | Open |

The update of the action status report for each of the recommendations made by BEA-TT to the railway system stakeholders is given in Annex 3 of this report.

Concerning the actions carried out in 2014 on earlier recommendations, we can note the following in particular:

* the actions taken by SNCF regarding the organisation and repair of the axles of the type of those involved in the derailment of the TER train in Lyon-Guillotière in June 2013 — The improvement made to the technical data sheets describing the procedure has, in particular, been issued to the staff in the technical centres concerned ;
* the significant work performed to lighten the ‘Equipment Warranty’ procedure, carried out in the broader framework of the ‘Accomplish All Works in Complete Safety’ initiative — This action, meeting a recommendation made in the framework of the investigation into the Lachapelle-Auzac collision in July 2012, was the subject of an in-depth experiment in 2014 in order to avoid deviant practices occurring in the area of work site protection.
	+ 1. Alerts launched by EPSF

In May 2014, EPSF passed on a safety alert concerning the on-line loss of an auxiliary tank from a Falns-type hopper car[[3]](#footnote-3), based on information received from the German national safety authority. This alert was passed on to the owners of wagons listed in the EPSF registration database. The owners were therefore asked to pay particular attention at the time of inspections and verifications on this type of wagon, indicating that any wagons with defects of this type should immediately be withdrawn from service for an additional check in the workshop. In the framework of the regular monitoring put in place, this alert was closed in September 2014 after a verification of the modification made to all of the bogies concerned.

* + 1. Work on a severity scale

At the end of 2013 and the beginning of 2014, several trains transporting dangerous substances derailed in marshalling yards. Given these trains’ low speed at the time of the derailment and the design of the wagons transporting these dangerous substances, these events were not in fact serious. The feedback means that it is necessary to put in place an assessment of the potential risks, and therefore of the levels of priority relating to the different types of incident. To do this, in April 2014, a working group steered by EPSF and made up of sector representatives (SNCF Mobilité, SNCF Réseau, Europorte France, Eurostar, Transdev and RATP as part of UTP) was set up with the following goals:

* define a scale common to all the railway operators allowing them, with their first analysis, to quickly assess the severity of the events that have occurred in the exercising of their activities;
* inform EPSF concerning the occurrence of these events, while providing a first analysis of their severity;
* identify the priority actions for improvement concerning the risk control;
* improve communication on the railway traffic-related events.

The reporting to EPSF of the events that have occurred on the national railway network has historically been carried out virtually exclusively by the railway traffic manager, who is informed of events based on their impact on traffic. This information is therefore sent to EPSF, with the infrastructure manager’s analysis regarding the event, which may be different from that of the other railway operators involved. For the most serious events, this process does not systematically provide EPSF with the analysis of the railway operators other than that of the railway traffic manager.

The goals set for this working group introduce a change with respect to this historical practice by requiring each railway operator to report its own events and analyses to EPSF. The working group has thus identified, at the time of its first steps forward, that the multiplication of sources of information introduced the need for EPSF to create a nomenclature of events making it possible to categorise each event in a consistent way between all the railway operators.

This group has therefore taken charge of drawing up this nomenclature, while seeking to integrate in it all of the safety events involving railway traffic, whether they have any consequences or not. This therefore means that it includes not only the accidents and incidents but also the precursor events. The inclusion of the latter should make it possible to establish a broader list (because many of the precursor events do not have any consequences and are therefore not seen by the traffic manager) and therefore a finer analysis for contributing to the improvement of safety.

This nomenclature will be finalised in 2015 and, for each type of event it comprises, will contain the result of the work conducted on the severity scale, that is to say the corresponding level(s) of severity. The reporting to EPSF by each railway operator of its own events creates a new flow of data which, given its volume, must be supported by appropriate IT tools. In parallel, in 2015 EPSF will examine with the sector what actions must be taken to meet this need.

* + 1. Plan for making level crossings safe

The national railway network (RFN) has approximately 18,000 level crossings (LC), 15,000 of which are on busy lines. This represents an average of about 60 LCs per 100 km of line, which is slightly higher than the European average of 50 LCs per 100 km of line. Each of these LCs constitutes a physical interface between the railway network and the road network. These LCs are closed 450,000 times and crossed by 16 million road vehicles each day. Each LC, depending on its configuration, presents a risk of collision between the railway traffic and the road users who cross it. Although more than 10,000 LCs are equipped with automatic sound and light systems making it possible to reduce this risk, there are still about 5,000 non-automated LCs on the national railway network (public LCs with Saint Andrew’s cross, public LCs with manual barriers or signals operated by a guard, guarded LCs, isolated public pedestrian LCs). These are crossed further to a visual check that there is no risk.

**Trend regarding the number of accidents at LCs and their consequences**

****

|  |  |
| --- | --- |
| Accidents aux PN | Accidents at LCs |
| Tués | Fatalities |
| Blessés graves | Serious injuries |

Collisions at LCs represent the second cause of death on the national railway network, accounting for nearly 40% of the total, with about thirty deaths every year. In 2014, 25 people were killed further to a collision at a level crossing out of a total of 65 people killed all categories of railway accident taken into account. In Europe, LC accidents also represent the second cause of railway traffic-related fatalities. France, ranked 11th in Europe according to the statistics on deaths at LCs per million train-kilometre (source: ERA safety report for 2014 based on 2010-2012 data), has seen this level stabilise in recent years after a very steep fall since the beginning of the 1990s.

In the vast majority of cases, the origins of these accidents are road-related, essentially owing to the behaviour of the road users but, to a lesser extent, because of technical failures in the road vehicles.

Concerning accidents at LCs, 2014 was marked by the collision between a TER train and an articulated lorry in Montauban (82) on 9 December. As it left Montauban station, TER train 871 833 ran into a lorry immobilised on LC 169 at a speed of 147 km/h. Eleven of the 105 passengers on the train were injured, one of whom seriously. The lorry driver was not injured. BEA-TT launched a technical investigation into this accident.

In 2014, BEA-TT published two investigation reports relating to:

* the collision between a TER train and a mobile crane that occurred on 16 April 2013 on an LC in Marseille (13) — This collision caused injuries to 32 people, two of whom had to be hospitalised: the mobile crane driver and the train driver. BEA-TT made a recommendation further to this accident aiming to ban heavy vehicles from crossing the LC on which this collision occurred;
* the collision between a train and two road vehicles - a car and a minibus on 27 October 2012 on level crossing No 40 in Amilly (28) — The car driver, who was alone in his vehicle, was seriously injured. The minibus driver was killed and the four passengers were injured, two of whom seriously. Three recommendations were made further to the investigation. The first one concerned the safety of the reset function in certain announcement systems for level crossings with automatic sound and light signalling. The other two concern the ability of certain diesel locomotives to shunt the track circuits.

At the time of the sixth national day on road safety at level crossings, on 24 September 2013, an action plan was announced for improving the safety of level crossings.

This action plan covers four areas:

* putting an end to forced crossings;
* meeting the specific needs of lorries and coaches;
* improving the information provided to road users;
* starting by making safe the LCs whose elimination or equipping is considered to be a priority.

This plan is being monitored at the national level by the body coordinating the national policy on level crossing safety improvement. In this framework, on 1 July 2014, the Minister for Ecology, Sustainable Development and Energy, the Minister of the Interior and the Secretary of State for Transport, the Sea and Fisheries signed an instruction. This instruction calls in particular for the completion within the year of the safety diagnoses initiated further to the Allinges accident in 2008 that should have been completed within five years, making it possible to identify the level crossings whose configuration increases the risk of accidents. This initiative makes it possible to update the national safety improvement programme (165 LCs on this list in 2014) serving as the basis for determining which LCs should be eliminated or improved (notably by fitting them with automatic sound and light systems).

The infrastructure manager, SNCF Réseau, is closely involved in the implementation of this action plan. In 2014, eight LCs included in the national safety improvement programme were eliminated. SNCF Réseau is also committed to a programme to equip highly frequented St Andrew’s cross LCs where the trains run at more than 60 km/h with automatic sound and light systems and two half-barriers, followed by all the LCs not yet equipped where the trains run at more than 90 km/h. This programme aims to equip 350 LCs with these systems. At the end of 2014, 15 LCs had been equipped and 40 more were the subject of studies, with accomplishment scheduled in 2015 and 2016. Research into new technical solutions has also been launched, such as the installation of obstacle detectors. Regarding the matter of raising road user awareness, SNCF Réseau organised its seventh national annual level crossing accident prevention day on 3 June 2014. This consisted, among other things, of organising information events at 10 LCs, associating road safety and accident prevention associations, the local authorities and the police in particular.

These various examples illustrate the many and varied actions launched in the framework of the plan to improve level crossing safety. The mobilisation of all the stakeholders involved (national railway network manager, road transport professionals, public and regional authorities) is essential if level crossing safety is to be improved significantly.

EPSF is also fully involved in this subject by providing assistance and advice to the sector by means of national working groups.

When lines are re-opened to passenger traffic, EPSF verifies the correct application by SNCF Réseau of its guidelines on safety studies at level crossings, taking into account the site’s configuration and the equipment envisaged.

* + 1. Action taken further to the Brétigny-sur-Orge accident

**Recommendations made by BEA-TT and actions launched by SNCF**

Further to the derailment of Intercités train No 3657 on 12 July 2013 in Brétigny-sur-Orge, causing the death of seven people and seriously injuring 30 other people, BEA-TT has drawn up an interim investigation report. Published on 10 January 2014, this document presents the first approach to the causes of the accident, the hypotheses put forward will nevertheless have to be confirmed by the analysis of the results of the metallurgical investigation. In this interim report, BEA-TT has also made three recommendations to SNCF. SNCF submitted its response to these recommendations on 13 February 2014.

The BEA-TT recommendations and the corresponding answers from SNCF are detailed below.

**Recommendation No 1**

Improve the overall level of control over bolted assemblies on points and crossings, by focussing on various factors, including:

* the components’ technical and quality specifications;
* the bolts’ locking systems;
* Compliance with the bolt tightening instructions and, more generally, with the specifications and best practices at the time of installation and maintenance operations on these assemblies.

*Associated action plan:*

SNCF has called on a college of independent experts to complete its own assessment of the subject. Actions to be taken in the short and medium term were identified during an interim review in the summer of 2014. The short-term actions consist of concentrating on improving the performance of the existing component parts. After the manufacture of prototype bolts, tests and measurements were performed on-site to compare their performance with respect to the present-day bolts in an identical situation. The first analysis of the data collected, carried out in December 2014, indicate that there is no significant difference in the performance between the two types of bolts. The end of the tests and the conclusions are scheduled for mid-2016. The medium-term actions consist of rethinking the partial or complete design of a splice bar. The improvement proposals are not expected before the end of 2015.

**Recommendation No 2**

Clarify and strengthen the rules regarding the measures to be taken if defects are detected affecting the bolts on points and crossings. In this framework, indicate the maximum lead-time after any intervention or inspection round, within which all the bolts must be present and tightened. Likewise, indicate a similar lead-time for the second-level attaching parts.

*Associated action plan:*

SNCF wrote and put into application a directive letter on 1 February 2014, detailing the measures to be taken when problems are detected on splicing bolts. Further to this directive coming into force, a feedback operation was carried out in May 2014. This led to the issue of a revised version of the directive and to the integration of its elements in a ‘Track’ function document on 25 June 2014. Concerning the second-level attaching parts[[4]](#footnote-4), SNCF has said that its internal standards in force already include these intervention lead-times.

**Recommendation No 3**

Identify the points and crossings or groups thereof that have special features requiring strengthened maintenance or early regeneration with respect to the general instructions. Provide provisions in the general organisation of maintenance or in that of sites that will ensure these special features are taken into account in a reliable and auditable way.

*Associated action plan:*

To begin with, SNCF undertook an initiative to characterise the points and crossings requiring strengthened maintenance that led, in March 2014, to technical criteria being drawn up making it possible to identify them. Furthermore, as from March 2014 monitoring has been stepped up. More broadly speaking, SNCF has undertaken to enable a better adaptation of the track gear maintenance policy to the gear’s specific features. The description of the process making it possible to adapt the track gear maintenance policy locally and its implementation conditions will have to be experimented in 2015.

**VIGIRAIL programme**

In order to integrate the different actions presented above, the VIGIRAIL programme, launched by SNCF and RFF in October 2013, was adapted in February 2014 (see actions 6 and 7 below).

VIGIRAIL is a programme organised around seven actions that encompasses the lessons learnt from the track gear observation campaign, BEA-TT’s first recommendations and most of the SNCF’s initiatives aiming to improve the safety of the railway system.

It represents a maintenance policy in transformation and aims more particularly to strengthen supervision, modernise maintenance and the training of the maintenance staff, speed up the replacement of points and simplify the maintenance standards.

**The seven actions making up the VIGIRAIL programme are as follows:**

*Action No 1: Renovate the points — Speed up the modernisation programme*

*This action consists in particular of going from 326 pieces of main track gear being renovated in 2013 to 500 being renovated in 2017. All the track gear concerned by these renovation operations through until 2017 has been identified.*

*Action No 2: Analysis and inspection of the rails by video*

*This action consists in particular of experimenting in 2014 the effectiveness of the equipment dedicated to the automatic video detection of problems on the running line (‘SURVEILLE’ programme) and of monitoring the track gear by video (called ‘SIM’). The result of these experiments at the end of 2014 led to the decision being made to put the SURVEILLE equipment into service on the national network, starting in 2015. The need to pursue the development of the SIM equipment in 2015 was identified before its main functions can be made fully operational.*

*Action No 3: 100% traceability of infrastructure monitoring. This action consists of ensuring traceability by giving the operators tools that facilitate the transmission of data and access to it, and ensuring better follow up of the inspection round reports. In 2014, SNCF procured the equipment it needs to start its experiments and develop the mobile applications required to cover the monitored area.*

*Action No 4: Express alerts*

*This action consists of putting in place a simple and effective system enabling the SNCF staff and the general public to report any problems observed in the infrastructure. A dedicated platform has been set up in Lyon, pilot schemes were launched in January 2014 in two regions and, further to the positive results observed, it has been decided to generalise this to all the SNCF staff.*

*Action No 5: Complete rethink of the training courses with new technologies. This action is based on the creation of two new teaching tools aiming to facilitate appropriation of the technical procedures and methodologies. One concerns training for the inspection rounds and the other training relating to track gear maintenance.*

*Action No 6: Strengthening and simplifying the maintenance standards. The goal of this action is to facilitate the identification of the measures to be taken at the time of inspection rounds, revise the ‘function’ documents and bring the maintenance policies into line with the needs. It has essentially led to the drawing up and implementation of a directive detailing the measures to be taken in the case of problems being observed on the splicing bolts, the reissue of a ‘Track’ function document, and the stepping up of the monitoring of certain particular types of gear.*

*Action No 7: Improve the level of control over bolted assemblies*

*This action, which was added to the initial programme with a view to meeting BEA-TT recommendation No 1 made it possible to launch, with the backing of a college of independent experts, an initiative for the analysis of the ”bolted assembly” subsystem that should lead to technical recommendations being drawn up in the areas of design and/or maintenance.*

* **EPSF follow-up**

The delegated infrastructure manager’s safety approval, renewed by EPSF on 14 February 2013, states that the BEA-TT recommendations must be taken into account in ‘safety action plans’. In the framework of the control exercised by authorised stakeholders, EPSF’s mission is to ensure that these actions are implemented.

And it is in this respect that EPSF asked SNCF to send it the detail of the safety action plans relating to the BEA-TT recommendations further to the Brétigny-sur-Orge derailment.

In order to monitor the progress made with these actions, specific follow-up meetings are also organised between EPSF and SNCF.

Furthermore, since May 2014 EPSF has been engaged in an audit campaign in order to assess the effectiveness of the infrastructure maintenance such as it is implemented by SNCF Réseau.

1. Technological developments

The issue of authorisations, whether for putting rolling stock or technical subsystems into commercial service on new or substantially modified lines, must cover and take into account the technological developments that have a very high impact with respect to safety. Highly innovative projects such as the re-opening of the Nantes-Châteaubriant line, the development of ERTMS and the technical problems relating to shunting are perfect illustrations of this.

* 1. Nantes – Châteaubriant tram-train

The Nantes-Châteaubriant tram-train project was a particularly innovative project consisting of opening a line that had been closed for more than 30 years to passenger traffic again. The re-opening of the line over a distance of more than 60 km raised major safety challenges owing to the new interfaces linked in particular to the crossing with a tram line, the presence of a large number of level crossings with or without barriers, the installation of new signalling, electrification, and lastly the utilisation of the line in different operating modes.

The freight traffic has been done away with, the platform and the track equipment have been modified accordingly to make a single-track line and a double-track section from Babinière-Sud to La Chapelle-Centre and passing tracks allowing the traffic to pass on the rest of the route. Electrified with 750 V and 25,000 V according to the sectors, this new line - exclusively dedicated to tram-train traffic - has highly specific characteristics:

* line operation in three different operating modes in succession: train (Nantes station), tram (urban area) and ‘block-tram’ (in the suburbs);
* signalling specific to the ‘block-tram[[5]](#footnote-5)’ operating mode, which required exemptions with respect to the Order of 19 March 2012;
* a strong interface with tram line 1 in the Nantes conurbation on the section operated in tram mode (shared platform comprising 5 urban LCs and crossing of the line by trams in Haluchère);
* the presence of no less than 25 LCs in the suburban sector operated in block-tram mode;
* outsourced prime-contracting for the construction of the eight PAI 2006 required for its operation, and authorised individually.
	1. ERTMS deployment on the RFN network

EPSF authorised the deployment of level 2 ERTMS superposed over TVM 430 on the East European LGV Phase 1 (between Paris and Baudrecourt) on 17 December 2013, the first ERTMS project implemented by SNCF Réseau in the RFN network.

The current projects integrating the deployment of ERTMS level 2 comprise the construction of:

* East European LGV Phase 2 (between Baudrecourt and Vandenheim), prolonging the phase 1 equipped with TVM 430 superposed over the level 2 ERTMS (AMEC (authorisation for entry into commercial service) scheduled in 2016);
* South Europe Atlantic LGV equipped with an SEI / TVM 300 type command-control and signalling subsystem juxtaposed with the level 2 ERTMS subsystem (AMEC scheduled in 2017) ;

Brittany-Loire Country LGV equipped with an SEI / TVM 300 type command-control and signalling subsystem juxtaposed with the level 2 ERTMS subsystem, to which a level 1 ERTMS must be added on the route around Le Mans (AMEC scheduled in 2017).

It should be noted that for level 1 ERTMS, the first authorisation was issued by the Franco-Spanish Inter-Governmental Commission on the Perpignan-Figueras line on 15 December 2010, with the opinion of EPSF and of the Spanish Ministry of Transport, the ‘Fomento’.

Three projects including level 1 ERTMS are currently in progress. This concerns:

* The equipping of corridors 2 and 6 crossing France which must implement level 1 ERTMS superposed over the existing trackside signalling. For corridor 2, two pilot sites are currently being equipped by SNCF Réseau:

Zoufftgen (frontier with Luxembourg) and Uckange;

Mont Saint Martin (frontier with Belgium) and Longuyon. The AMEC for these pilot sites is scheduled for April 2016 and requires coordination between the French, Belgian and Luxembourg national safety authorities (ANS). The later deployment of level 1 ERTMS on the RFN network by SNCF Réseau will be made on the basis of the AMEC for these pilot sites’ functionalities and according to the strategy validated by EPSF.

* The construction of the bypass around Nîmes and Montpellier equipped with level 1 ERTMS superposed over the trackside signalling and backed up with KVB (AMEC scheduled in 2017).
* The subject of ERTMS has highlighted the need to establish an instruction methodology because:
* the ERTMS specifications, like the corresponding TSI, are constantly changing and deviations may appear given the different time-scales between the projects’ emergence phase, their effective deployment and the technical changes made to the subsystem;
* a system approach is essential: EPSF issued the AMEC for the ETCS/TVM v 7.2.5.1 bi-standard equipment in complete mode, level 2 for TGV trains 2N2, 3UA, 3UF and 3UH on 14 November 2014.

There are no ‘European’ guidelines for examining this subsystem. The first version of the guidelines concerning freight corridor No 1 (Rhine – Alps) was published in December 2013 by a working group consisting, in particular, of the Italian (ANSF), German (EBA) and Dutch (ILT) National Safety Agencies. In December 2014, EPSF was called on by the RINA notified body in the framework of a call for CEF (Connecting Europe Facility) projects, one of the subjects of which concerned the harmonisation and simplification of the ERTMS authorisation procedures. EPSF answered in favour of putting a collaborative project in place on this subject, as did several European safety agencies. The results of the call for projects are expected in mid-2015.

* 1. Problem of shunting

Shunting is a complex technical subject that continues to raise many questions today, regarding not only equipment already in operation but also the design of new trains that will have to be authorised.

It must be remembered this is a question of detecting rolling stock on a length of track so that the trains can be spaced correctly, or stopped ahead of specific points. Track circuits are used to ensure this function. This equipment generates a difference in the electrical voltage between the two rails. When there are no axles present the rails are not short-circuited (shunted) and the section concerned transmits a release signal to the safety installation. The entry of one or more axles into the section concerned makes it transmit an occupied signal to the safety installation. When the presence of an axle on a length of track does not cause a short-circuit, and therefore the detection of the rolling stock, the corresponding phenomenon, which may have serious consequences regarding railway safety, is called ‘deshunting’.

EPSF was called on by the sector at the end of 2013 in order to propose a standard that would provide objective criteria for qualifying all the rolling stock’s shunting capability, by separating their intrinsic characteristics from the external parameters affecting the infrastructure.

Certain circumstances can prevent the detection of vehicles as perfectly as may be required to ensure safety. This may be caused by the rolling stock’s intrinsic characteristics (weight, type of brake shoe, dynamic behaviour, traction mode). In fact, the performance of the new trains put into service make their detection more difficult by the track circuits whose technology has not changed much over time. Most of the causes of deshunting are due to an alteration in the rail/wheel contact (presence of leaves, oxidation of the rails, presence of sand, etc.). These ‘environmental’ causes lead us to consider that the shunting capability of a piece of rolling stock, in particularly recent rolling stock, corresponds to the capacity for this rolling stock (perfectly conform to the applicable standards) to be detected by a degraded or contaminated infrastructure. The key factor regarding this phenomenon lies in the quality of the rail/wheel contact, deteriorated by these different material or environmental causes.

Given the potential seriousness of deshunting, of which the Amilly accident on 27 October 2012 is the most recent case, EPSF took hold of the subject in 2014 considering that technological innovation and the putting in place of alternative approaches for qualifying the rolling stock on this complex subject could improve the level of safety.

In practice today, it is only by performing tests on a dedicated site that it will be possible to qualify the shunting capability of new rolling stock. Besides the availability of the site, which is also a line open to traffic, the lack of technically frozen criteria, independent from the external and environmental phenomena can impact on the measurements. Furthermore, the absence of precise acceptance criteria leads today to situations with serious consequences in terms of operations (special monitoring measures for rolling stock classified ‘poor shunter’), even to technically unsuitable situations for recent rolling stock (permanent application of ‘scrubbers’ on the wheels).

On the strength of these findings, EPSF has based its work on the methodology developed by the Dutch infrastructure manager PRORAIL, confronted with the same phenomena in the 1980s. Starting from each piece of rolling stock’s intrinsic characteristics, it is a question of defining their theoretical shunting capability by weighting these characteristics according to their importance in the shunting phenomenon. The weighting was established on the basis of hundreds of thousands of measurements made on line by PRORAIL which was able to establish a mathematical model correlated with the operating reality.

After an initial study phase, whose ‘system’ perspective is beyond doubt, EPSF evidenced the need to characterise the infrastructure according to the same methodology adopted for the rolling stock. By crossing the two scores (infrastructure and rolling stock) it should be possible to better grasp the rolling stock’s shunting performance. Collaboration with the Railenium technological research institute and the stakeholders concerned will make it possible to pursue the works in 2015.

On 27 October 2012, SNCF train No 320012 made up of two locomotives BB60000 running light between Le Mans and Chartres ran into a car and a minibus on level crossing No 40 located in Amilly in Eure-et-Loir (28). The car’s driver was seriously injured. The minibus’s driver was killed. Its four passengers were injured, two of whom seriously.

The immediate cause of the accident was the early re-opening of the level crossing when the train concerned was still approaching. This re-opening was triggered by untimely resetting of this level crossing’s announcement device. It has not been possible to determine with certainty the causes of this event. The investigations carried out by BEA-TT determined that the scenarios explaining this reopening would require the deshunting of one of the announcement zones’ track circuits.

The BEA-TT analysis led to three recommendations being made. The first one concerned the safety of the reset function in certain announcement systems for level crossings with automatic sound and light signalling. SNCF Réseau has undertaken to take this into account in the design and maintenance rules for level crossings. The other two, sent to SNCF Réseau and EPSF, concern the track circuit shunting capability of certain diesel locomotives and are the subject of ongoing actions whose completion is scheduled in 2015.

Total

1. Monitoring of activities in 2014

The monitoring of the railway operators carried out by EPSF in 2014 was marked by a sharp rise in the number of verifications. These verifications essentially concerned skills management, infrastructure maintenance, operating documentation and safety management. The monitoring carried out by the railway operators on their own activities present weaknesses, with respect to the result of the audits performed by EPSF, regarding the relevance of the verification priorities, compliance with the verification plans and the inspectors’ know-how.

* 1. Monitoring ensured by EPSF

EPSF carried out 211 verifications in 2014 on the national railway network, a value that was up significantly compared with the previous years, particularly compared with the 112 checks performed in 2013. After a kick-off phase in the first half 2014, a steady rate of about two operational verifications a week was reached in the second half 2014 and it was thus 87 verifications that were carried out in 2014 representing the inspection of about 350 trains throughout the country. These operational checks essentially consist of verifying the conformity of the trains before their departure. They concern the recognition of the fitness for carriage, technical inspection and conformity of the on-board documents in particular.

The number of audits and inspections was also up with an increase of 14% between 2013 and 2014 as shown in the table below. These inspections are ensured by a team of 24 inspectors backed up from time to time by external experts.

Infrastructure maintenance was the subject of particular attention and EPSF launched an audit campaign in the spring of 2014 in this area in order to assess the effectiveness of the maintenance process in its entirety from its design through to its accomplishment.

This audit campaign is organised around:

the first prospective phase which consists of collecting and analysing the elements making it possible to identify the areas of the safety management system on which it appears appropriate to focus the verifications;

the second phase, conducted on the operational level, consisting of observing the effectiveness of these areas in the framework of the maintenance which will then be consolidated on the subjects where this is deemed necessary.

Given the scale of this audit campaign and its strategic nature, EPSF has decided to bring in qualified people from the railway, industrial and university sectors with a view to providing a perspective that is both external and complementary to the actions taken.

Six general areas were examined:

internal control and feedback;

technical skills management;

knowledge of the property assets;

planning and matching the means with the maintenance staff’s needs;

maintenance standard;

safety culture.

|  |  |  |
| --- | --- | --- |
|  | 2014 | 2013 |
| Systematic audits | 47 | 54 |
| Context-related audits | 34 | 8 |
| Inspections | 43 | 45 |
| **Total** | **124** | **107** |
| Operational verifications | 87 | 5 |
| **Total** | **211** | **112** |

The 211 verifications carried out during the year led to the notification to the verified entities of 301 deviations, two of which were blocking, 43 major deviations and 256 reservations. This result represents a slight improvement with respect to 2013 during which EPSF noted 321 deviations. The average number of deviations per verification (excluding operational verifications) was down slightly at 2.3 deviations per verification in 2014 compared with 2.5 in 2013.

**Ratio of the number of deviations with respect to the number of verifications performed from 2007 to 2014**



This result must be qualified. Although the number of major deviations fell significantly with 43 deviations reported in 2014 for 76 in 2013, the number of blocking points was up again after a fall during the last three years, leading to no blocking points being notified in 2013.

The year 2014 was thus marked by the notification of two blocking points further to imminent serious hazards being observed:

* The first one concerned the training of the drivers by personnel that do not have the required seniority. A measure to stop the training was taken immediately.
* The second concerned locomotives running with axles whose type conformity had not been demonstrated (operation of the locomotives concerned suspended so that the non-destructive testing could be performed to check the axles’ type conformity).

Further to an audit of the internal operating system carried out in July 2014, EPSF also decided to suspend the approval of a training centre and of an organisation in charge of examinations, as of 1 August 2014.

* + 1. Nature of the railway operators’ deviations

Overall, the verifications performed in 2014 revealed certain predominant themes which must be the subject of greater vigilance on the railway operators’ behalf. They are taken into account in the EPSF verification programme for 2015.

These themes essentially concern skills management, the operating rules as well as the internal verifications, inspections and audits.

**Skills management:**

* The staff files must be kept up to date more rigorously. All the valid data required for issuing an approval or a certificate must be present.
* The drivers’ practical training with a view to issuing complementary certificates is not always carried out by people who have all the required skills, particularly regarding seniority as a driver. This means that the acquisition of all the skills by the trainee is not guaranteed.
* The safety tasks other than those defined in the aptitude Order of 30 July 2003 and the resulting training are not always correctly defined in the railway operators’ SMS.

**Operating rules:**

* Certain operators in the field do not completely apply the operating rules given in the operational instructions. The operators’ attention has been drawn to the need for greater rigour on this point.

**Internal verifications, inspections and audits:**

* The supervision plans are not always carried out within the deadlines set in compliance with the company’s procedures.
* Owing in particular to the difficulties that certain operators’ local management have reconciling their monitoring activities with their production activities.
* The items making up the operators’ supervision plan are often too general and not sufficiently suited to the risks inherent to their day-to-day activities.
* The inspectors’ skills must be developed in order to improve their ability to define and grasp the inspection system on the one hand, and detect and correct the deviations in the implementation of the procedures by the operators on the other hand.
* The scope of the internal audits is too often limited to regulatory compliance, and does not focus sufficiently on the verification of the organisations’ efficiency.
* Difficulties following up the deviations and completing the internal audits’ corrective actions on time have been observed. Priority must be given to closing the action plans.
* The efficiency of the internal verification systems does not always make it possible to detect the weaknesses in the verification carried out by local management.

**Drawing up, updating and distributing the documentation:**

* The operational documentation is not always suited to the end-users who sometimes have difficulties finding the information they need quickly when carrying out their missions. For example, certain Local Operational Instructions (CLO) on complex sites, are an exact copy of the Local Operating Instructions (CLE).
* The time between the distribution and the entry into force of the new documents does not always leave the operators enough time to familiarise themselves and correctly integrate the changes made.
* During operational verifications, it has been noted that the operational documentation used does not always correspond to the latest applicable version or that it is not available. For the drivers, this is for example the case for the Technical Information, or FLASH/FLH (Weekly Line Service Notification Note/Weekly Line Note).

Furthermore, constant vigilance is essential regarding the maintenance of the railway infrastructures.

Furthermore, the management of changes, particularly those linked to organisational changes are all too rarely the subject of the analysis stipulated in Regulation (EC) No 352/2009, applicable in 2014, concerning the common safety method relating to the assessment and appreciation of the risks.

* + 1. Training organisations and examination centres

For the training organisations and examination centres, the average number of deviations per verification was 0.85 in 2014 compared with 2.35 in 2013. This very significant reduction in one year shows a considerable improvement in the quality of the safety management systems.

However, it can be noted that the average number of deviations differs according to the categories of training organisations and examination centres:

* For the centres and organisations integrated in a network of the same type of establishments, the quality of the training process is today well under control thanks to an effect of the capitalisation of improvements. Indeed, once a deviation is detected in one establishment, its processing is deployed to the network as a whole. For these establishments the average number of deviations per verification was 0.5.
* For the organisations and centres not integrated in a network, therefore not benefiting from this synergy, the average number of deviations per verification was 1.7.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Type of organisations and centres | Number of verifications | Major deviations | Reservations | Total | Number of deviations per verification |
| 2013 | Belonging to a network | 15 | 6 | 15 | 21 | 1.4 |
| Not in a network | 5 | 10 | 14 | 26 | 5.2 |
| **Total** | **20** | **14** | **31** | **47** | **2.35** |
| 2014 | Belonging to a network | 14 | 0 | 7 | 7 | 0.5 |
| Not in a network | 6 | 5 | 5 | 10 | 1.7 |
| **Total** | **20** | **5** | **12** | **17** | **0.85** |

* + 1. Deviations closed

Coming after a good year 2013, the trend regarding non-compliance with the corrective action implementation deadlines has started to increase again and exceeds the target of 5 %. For 2014, the deadline non-compliance indicator increased to 6.13% when it was just under 5% in 2013. The effort made by all the stakeholders in this sector must be reinforced on this point in order to at least return to the 2013 level.

ANNEXES

1. Definitions: safety goals and indicators

Directive 2004/49/EC introduced the notions enabling the harmonised assessment of the level of railway traffic safety and of the operators’ performance at the Community level and in the Member States. The assessment principles can be described around the following three points.

**Common Safety Indicators (CSI)**

The CSI are calculated for each country on the basis of observable data. Annex 1 of the directive, along with its appendix, gives these indicators which are defined on a common basis. In particular, it indicates the number of people killed and seriously injured at the time of railway accidents, broken down according to the following five types of people:

* passengers;
* employees, including subcontractors;
* level-crossing users;
* unauthorised persons on railway premises;
* ‘other’ people.

|  |  |
| --- | --- |
| **Risk categories** | **Measurement unit** |
| 1.1  | Passengers | Passenger FWSIs / passenger train-km  |
| 1.2  | Passengers | Passenger FWSIs / passenger-km |
| 2.  | Employees | Employee FWSIs / train-km  |
| 3.1  | Level-crossing users | Level-crossing user FWSIs / train-km  |
| 3.2  | Level-crossing users | Level-crossing user FWSIs / [(train-km \* number of level crossings) / track-km)]  |
| 4 | Others | FWSIs to ‘others’ / train-km  |
| 5.  | Unauthorised persons | FWSIs to unauthorised persons / train-km  |
| 6.  | Society as a whole | Total number of FWSIs / train-km  |

The eight CSTs are therefore the target values set for each risk category. These targets are calculated in compliance with the common safety method (CSM) described in Commission Decision 2009/460/EC of 5 June 2009. This decision provides for the introduction of national reference values (NRVs) for each risk category, constituting target values making it possible to quantify the current safety performance of railway systems in the Member States.

**Assessment of NRV and CST achievement**

The principles for assessing the achievement of NRVs and CSTs are also described in Decision 2009/460/EC, notably in its second Appendix. The flowchart below can be used to assess the safety performance for each target value relating to a risk category (NRV or CST): ‘Acceptable’, ‘Possible deterioration’ or ‘Probable deterioration’.

**Decision flowchart**

**First step**

Does the observed safety performance comply with the NRV?

YES

NO

**Acceptable safety performance**

The Member State is informed of the results and does not have to take any special measures.

**Second step:**

MWA < NRV x 1.2?

NO

YES

**Third step:**

Is this the first time in the last three years that the second assessment step did not return evidence of acceptable safety performance?

NO

YES

**Fourth step**: Has the number of significant accidents remained stable or has it decreased?

**Fourth step**: Has the number of significant accidents remained stable or has it decreased?

YES

YES

NO

NO

**Possible deterioration of safety performance**

The Member State is informed of the results and must analyse and comment on its performance. The Commission requests the Agency to provide a technical opinion on the information provided by the Member State.

**Acceptable safety performance**

The Member State is informed of the results and does not have to take any special measures.

**Probable deterioration of safety performance**

The Member State is informed of the results and must analyse and comment on its performance. Where necessary, the Member State must submit a safety enhancement plan (SEP) to the Commission. The Commission may ask the Agency to provide a technical opinion on the SEP.

1. Safety indicators

**Assessment of achievement of safety targets**

The assessment presented below constitutes the sixth assessment of accomplishment of safety targets carried out by the European Railway Agency in compliance with the CSM described in decision 2009/460/EC of 5 June 2009. The national reference values (NRVs) as well as the second set of common safety targets (CSTs) are those published by the Commission in its decision 2012/226/EU in 2012. These values use the 2004-2009 data provided by the Member States to Eurostat, the European statistics office. The assessment presented in this annex is based on the 2009-2013 data published by the Agency in its report entitled ‘2015 Assessment of Achievement of Safety Targets’.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Step 1\* | Step 2\* |
|  | Risk category | 2013 results | NRV | MWA\*\* | 1.2xNRV |
| 1.1 | Passengers (per train-km) | 1.27 10-8 | 2.25 10-8 |  |  |
| 1.2 | Passengers (per passenger-km) | 5.9 10-11 | 1.1 10-10 |  |  |
| 2. | Personnel (per train-km) | 6.43 10-9 | 6.06 10-9 | 6.01 10-9 | 7.27 109 |
| 3.1 | Level-crossing users (per train-km) | 6.2 10-8 | 7.87 10-8 |  |  |
| 3.2 | Level-crossing users (per train-km \* number of level crossings) / track-km)]) | / | / | / | / |
| 4. | Others (per train-km) | 13.65 10-9 | 7.71 10-9 | 5 10-9 | 9.25 10-9 |
| 5. | Unauthorised persons (per train-km) | 8.86 10-8 | 6.72 10-8 | 8.2 10-8 | 8.06 10-8 |
| 6. | Society as a whole (per train-km) | 1.81 10-7 | 1.8 10-7 | 1.71 10-7 | 2.16 10-7 |

step returning a positive result

step returning a negative result

\* See decision flowchart, Annex 1

\*\* MWA: Moving Weighted Average as defined in Decision 2009/460/EC

**Common Safety Indicators**

This annex presents the common safety indicators (CSIs) defined by Directive 2004/49/EC. These are the annual changes calculated as five-year moving averages. So the value for 2014 corresponds to the average of the values for the period from 2010 to 2014. In comparison, the data presented in the graphs in section ‘2.3.1. Safety level results’ are not the result of moving averages.

**N10: Relative number of accidents per million train-km**

Average calculated over 5 years



**TK10: Relative number of people killed per million train-km**

Average calculated over 5 years



**TS10: Relative number of people seriously injured per million train-km**

Average calculated over 5 years



**I10: Relative number of precursor events per million train-km**

Average calculated over 5 years



Accidents presented by type

**N11: Relative number of collisions per million train-km**

Average calculated over 5 years



**N12: Relative number of derailments per million train-km**

Average calculated over 5 years



**N13: Relative number of accidents at level crossings per million train-km**

Average calculated over 5 years



**N14: Relative number of accidents involving people caused by moving rolling stock per million train-km**

Average calculated over 5 years



**N15: Relative number of fires on rolling stock per million train-km**

Average calculated over 5 years



**N16: Relative number of ‘other’ accidents per million train-km**

Average calculated over 5 years



**Deaths broken down by type of person involved**

**PK10: Relative number of passengers killed per million train-km**

Average calculated over 5 years



**PK20: Relative number of passengers killed per million passenger-km**

Average calculated over 5 years



**SK10: Relative number of employees killed per million train-km**

Average calculated over 5 years



**LK10: Relative number of level-crossing users killed per million train-km**

Average calculated over 5 years



**UK10: Relative number of unauthorised persons killed per million train-km**

Average calculated over 5 years



**OK10: Relative number of ‘other’ people killed per million train-km**

Average calculated over 5 years



**People seriously injured broken down by type of person involved**

**PS10: Relative number of passengers seriously injured per million train-km**

Average calculated over 5 years



**PS20: Relative number of passengers seriously injured per million passenger-km**

Average calculated over 5 years



**SS10: Relative number of employees seriously injured per million train-km**

Average calculated over 5 years



**LS10: Relative number of level-crossing users seriously injured per million train-km**

Average calculated over 5 years



**US10: Relative number of unauthorised persons seriously injured per million train-km**

Average calculated over 5 years



**OS10: Relative number of ‘other’ people seriously injured per million train-km**

Average calculated over 5 years



**Accident precursors**

**111: Relative number of broken rails per million train-km**

Average calculated over 5 years



**I12: Relative number of cases of track buckling per million train-km**

Average calculated over 5 years



**I13: Relative number of signalling failures per million train-km**

Average calculated over 5 years



**I14: Relative number of signals passed at danger per million train-km**

Average calculated over 5 years



**115: Relative number of broken wheels on rolling stock in service per million train-km**

Average calculated over 5 years



**116: Relative number of broken axles on rolling stock in service per million train-km**

Average calculated over 5 years



1. Follow-up of BEA-TT recommendations

This annex summarises the follow-up carried out by EPSF of the actions implemented further to the recommendations made by BEA-TT to railway sector stakeholders. This follow-up presents the progress made with the actions for the recommendations opened on 31/12/2014.

**Reports published in 2006**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 12/2006 | Collision between a TER train and a lorry on a level crossing in Saint-Laurent-Blangy (62) on 09/06/2005. | RI | Pursue the examination of the solutions (change of level on the spot or new route) making it possible to do away with this LC, in order to arrive at a decision and accomplishment as soon as possible | SNCF | Action closed |
| RFF | The elimination of the bullhead rails on AV lines is continuing (by removal of rails or stopping the traffic).On 31/12/2014, less than 500 km of main tracks open to passenger traffic in operation were equipped with bullhead rails.The operations scheduled to date make it possible to maintain the target of 411 km by 2016. |
| 11/2006 | Derailment of a Corail train in Saint-Flour (15) on 25/02/2006 | R1 | Establish a programme to upgrade lines open to passenger traffic that are equipped with bullhead rails.Eventually, organise the gradual replacement of bullhead rails with Vignole rails given the ageing of the bullhead rail stock, its growing maintenance costs and the high risk of derailing in the event of a rail breakage. | SNCF | Action closed |
| RFF | The programme to do away with bullhead rails is being pursued. There were 1,538 km counted in 2006. The forecast for 2016 is 411 km of bullhead rails still in place. |

**Reports published in 2007**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 11/2007 | Passenger accident in Chaville-Rive-Droite station (92) on 10/11/2006 | RI | For rolling stock requiring a significant maintenance operation in the workshops, examine modifications making it possible to subordinate the possibility of manual door opening after actuation of an SAI to a speed threshold lower than the lowest detectable speed; establish a programme for the implementation of these modifications. | SNCF | An inventory of the Transilien rolling stock has been drawn up concerning the prevention of the emergency door opening command when the train is running. Several trains are already equipped, others are currently being modified or their modification is being scheduled. For some of the rolling stock that has already been renovated, a feasibility study has been requested from the equipment and maintenance department (Direction du matériel) regarding the necessary technical modifications. As for rolling stock whose scrapping is scheduled shortly, no modifications are envisaged. |

**Reports published in 2008**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 04/2008 | Derailment of a maintenance locomotive in Carcassonne (11 ) station | R2 | Examine the installation of a unified derail on track 4 between points 120b and 118a. | SNCF | Action closed |
| RFF | The transformation of track 4 into the main track or the installation of a unified derail is not planned and has not been included in the State/Region Plan Contract CPER 2014-2020. No perspective of accomplishing this project. The prohibition of access for vehicles fitted with a rail guard is effectively notified in the local operating instruction (CLE) for Carcassonne, Shunting theme ref. LR-CE-SE 08 A-00-A-87615286 § 102.3.5 and makes it possible to cover this risk. |
| 03/2008 | Person struck in Villeneuve-Triage (94) station on 01/03/2007 | RI | Ensure a sufficient number of ‘Do not cross the tracks’ signs are installed, or any other equivalent system, and keep them clean so they are legible. | SNCF | Document RFN-IG-TR 01 C-02 No 001‘Safety for the general public at stopping points, at track crossings and on platforms — Equipment and operating principles’ was published on 27/06/2011 replacing standard IN01724. A diagnosis of each establishment’s equipment was carried out: among the 3,026 stopping points listed, 1,714 have been dealt with to date and brought up to standard where necessary. |
|  |  |  |  | RFF | Action closed |

**Reports published in 2008 (cont’d)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 12/2008 | Derailment of a works train in Duloz (01) on 24/07/2006 | R1 | When bringing a specialist piece of equipment (approved for railway works) incorporated in a works train from the works zone to the parking place and vice-versa, make the departure authorisation conditional on the prior remittal of a working order compliance certificate (AMOR) duly signed by the representative of this specialist equipment’s operator to the train formation operator in charge of issuing the departure authorisation. The latter can then transmit the ‘train ready for departure’ information to the delegated infrastructure manager’s officer who will then be able to authorise access to the network by opening the corresponding signal. | SNCF | The working order compliance certificate (AMOR) trialled in the Chambéry SNCF region has been generalised to the SNCF as a whole and should be taken into account in an S9B16. The document is still in the draft stage. |
| RFF | Action closed |
| R2 | Regarding future track works equipment with a complex architecture subject to the IN 1418 standard, check its ability to pass track warping and for the on-line test apply the protocol stipulated by sheet UIC 518 for vehicles with a new technology. This stipulates the measurement of the wheel/rail interaction forces Y and Q in particular. In the case of a train whose architecture is similar to that of the P21/95, perform these measurements on the working group’s axle at least. | SNCF | Action closed |
| RFF | The recommendation is included in the framework of the drafting of the special operating rules CG MR3A No 3 and CG MR3A No 5. The drafts have been submitted to EPSF, which made its remarks known at the end of January 2014. These remarks include the request that all new equipment should be fitted with KVB. The publication of these two rules has been delayed awaiting the decision of DGITM. |
| RFF | Action closed |
| 12/2008 | Staff member struck by a train at LC 37 in Bayard (52) on 26/02/2008 |  | Examine a modification to the regulations for works in the immediate vicinity of an LC no longer stipulating the utilisation of R2 guarding resumption lights but the utilisation of flashing red road lights to alert the announcer of an approaching train so that it can emit the announcement signal. | RFF | The recommendation will be taken into account in the framework of implementation by SNCF Réseau of the regulations relating to employee safety. |

**Reports published in 2009**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 12/2009 | Group of people struck at the Stade de France in Saint-Denis (93) | R3 | Put in place organisations and closing specifications making it possible to guarantee that the doors and gates providing access to railway property are reasonably dissuasive for third parties while remaining easily accessible for authorised people. | SNCF | Action closed |
| RFF | The expression of requirements that is now used as the basis for calls for tenders for the installation of fences and access gates on RFN property take into account the feedback from the Stade de France accident and stipulates solutions enabling the automatic closing of the doors and gates. |
| R5 | Review the installation policy regarding signs prohibiting access to railway property and indicating the associated hazards at the level of the doors and gates providing access to railway platforms. Define the implementation procedures regarding this policy. | RFF | The zones identified as being similar to the Stade de France (crowds gathering from time to time) have been identified and are being dealt with. The safety policy will be published in 2015. |

**Reports published in 2010**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 02/2010 | Collision between a coach and a TER train in Allinges (74) on 02/06/2008 | R2 | Complete the Order of 18 March 1991 (article 10) indicating that the time taken by a level crossing to close must allow any authorised heavy road vehicle engaged at the moment a train is announced to pass the entry barrier in the opposite direction before it comes down.The verification of this condition must be carried in consultation with the road infrastructure manager so it can determine the time authorised vehicles take to cross.If this leads to a time that is too long with respect to other considerations leading to limiting the announcement time (for example, risk of passing the half-barriers in chicane by imprudent users), consider prohibiting road vehicles that cannot complete the crossing in the time allowed. | DGITM | Action in progress, LC safety plan |

**Reports published in 2010 (cont’d)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 12/2010 | Derailment of two dangerous goods wagons in Orthez (64) station on 24/11/2009 | R2 | Have the entities in charge of maintenance check the relevance of the maintenance rules relating to the body-bogie links on tanker wagons with long wheelbases and have the instructions relating to the traceability of the interventions on these assemblies strengthened. | VTGF | Action closed |
| AFWP | Working group put in place |
| R3 | Have modified and completed by the entities in charge of maintenance, the criteria relating to the play on the transoms of rigid wagons with long wheelbases so they are coherent with the standards relating to the track and sufficient to guarantee the ability of the wagons to pass warped sections. | VTGF | Ask AFWP to put in place a common working group. Action closed |
| AFWP | Working group put in place. |
| R5 | Put in place a rail greasing policy guaranteeing a sufficient level of greasing in zones where the severe geometrical characteristics and the presence of heavy freight train traffic generate a particularly high risk of derailment by wheel climb. | SNCF | Currently being deployed: put in place a rail greasing policy guaranteeing a sufficient level of greasing in zones where the severe geometrical characteristics and the presence of heavy freight train traffic generate a particularly high risk of derailment by wheel climb. It could be envisaged to equip certain infrastructure equipment with rail greasers commanded automatically in these zones. |
| RFF | Standard IG-IF 2 B-31 No 2 (IN0206) ‘Greasing of rails by rolling stock’ applies since 04/02/2013. It is associated with the revision of IN 2070 ‘Monitoring rails on main tracks’. |
| Collision betweena train and the load on a train running in the opposite direction in the Livernant tunnel (16) on 20/05/2009 | R5 | Examine the procedures making it possible, by adapting regulatory document IN 1514-S2C or by making recommendations concerning the railway undertakings’ function documents, to ensure that train drivers presume there has been a gauge encroachment by the oncoming train when they hear an unusual impact noise when passing an oncoming goods train at night or when there is no visibility. | EPSF | Action in progress |
| 12/2010 | DGITM | Action closed |

**Reports published in 2011**

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| Report date | Investigation title | No | Wording of the recommendation | Entity | Action status |
| 01/2011 | Derailment of a freight train in Neufchâteau station (88) on 22/05/2010 | R2 | Send the holders the recommendation to strengthen and ensure the reliability of the wheel crack detection cells on their wagons, in relation with their entities in charge of maintenance or their maintenance engineering service providers. | AFWP | Action in progress |
| 01/2011 | Collision between a passenger train and a farm trailerin Boisseuil (87) on 03/07/2009 | R2 | Assess whether it would be appropriate to install the trackside-train radio alert system (SAR) in the traffic management operational centres (COGC) and the traffic control centres to effectively alert the trains in the case of obstacles on the tracks or imminent danger. | SNCF | An experiment with the radio alert at the regulator’s disposal was carried out at the Lorraine COGC with extension to the other COGCs equipped with GSM-R. An experiment has been carried out in Nancy to place the radio alert at the disposal of a traffic manager. |
| RFF | The feedback from the experiment leads to the conclusion that a change must be made to the ergonomics (sound backup for the SAR transmission), which has been done. RFF gave its approval for the extension of the sound backup experiment. |
| 08/2011 | Derailment of a freight train in Bully-Greney station (62) on 29/07/2010 | R2 | Contribute, at the European level, to the creation and implementation of a compulsory qualification and follow-up system for the workshops that have to work on brake manifolds and, more generally speaking, on the most safety-critical systems. | DGITM | Action in progress |
| R3 | Make a comparison with the main European networks of the consistency, density and quality of the problem monitoring and detection systems on running trains (excluding LGV) and search for innovative systems in the project or experimental phase. Share the results with the main safety stakeholders on the national railway network and learn the useful lessons for this network’s equipment. | RFF | In the framework of the STEM study, RFF has called on the Italian, Swiss and Austrian networks regarding defect detection devices. The relevant points have been included in the study.Furthermore, in the framework of the Xl 5 project, discussions have been held with Network Rail, Prorail, Infrabel and the CFFs on the subject of measuring stations (weight of trains and wheel impact load detectors). |
| 10/2011 | Collision between a TER train and a lorry on an unguarded level crossing in Gimont (32) on 27/09/2010. | R2 | Quickly secure the access route to the hamlet of Julias, either by doing away with level crossing No 76, or by modifying the way it is crossed by installing sound and light signalling and by straightening district road No 10 as it approaches the LC. | RFF | Prefectural order doing away with the LC was published on 4 June 2012. The LC has been closed, the removal works should be completed in April 2014 (subject of a deviation in the EPSF audit on the completion of the BEA-TT recommendations). |

**Reports published in 2012**

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| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 01/2012 | Derailment of a freight train in Neufchâteau station (88) on 22/05/2010 | RI | Intervene with the European Railway Agency (directly for EPSF, through the intermediary of the Joint Sector Group [JSG] for SNCF and through the intermediary of the European Railway Wheels and Wheelsets Association [ERWA] for Valdunes) in order to promote a study and test campaign making it possible to assess the real forces to which tanker wagon rolling systems are submitted on line and in marshalling yards, as well as the interactions of these forces, so they can be taken into account in the design standards for wheels. | SNCF | Action closed |
| EPSF | This recommendation did not appear to be particularly practical. So no specific action has been planned. |
| Valdunes | No information on this action. |
| R2 | Intervene with the European standards bodies to have roughcast wheel plates removed from the European design and manufacturing standards for wagon wheels, awaiting sufficient improvement in the knowledge of the impact of their surface characteristics on their fatigue life. | BNF | Action in progress |
| R6 | Intervene with Bureau CUU to have wheel plate crack detection at the time of exchange technical inspections and of post-repair verifications more explicitly highlighted in Annexes 9 and 10 of the uniform utilisation contract. | SNCF | Action closed |
| NACCO | No information on this action. |
| VTG | Action closed |
|  |  |  | Act at the national level and with the European Railway Agency so the holders of wagons and the entities in charge of maintenance put in place organisations and tools allowing them to know the condition and situation of their fleet of wagons and axles and guarantee the traceability of the maintenance operations. In this framework, act for the implementation of the European Wheel Traceability (EWT) guidelines | EPSF | This reminder of the holders’ and ECM’s general obligations regarding traceability has not required any particular action. |
| R9 | AFWP | No information on this action. |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 06/2001 | Collision between a goods train and an outsize lorry transporting metal beams stopped by LC No 222 in Balbigny (42) on 25/01/2011 | R3 | Have information drawn up by RFF and SNCF and distributed to the professional road transport organisations regarding the specific dangers of crossing level crossings for outsize lorries drawing their attention, in particular, to the precautions to be taken to avoid being immobilised and situations where protection must be requested from the railway infrastructure manager. | DGITM | Action in progress |
| 07/2012 | On-line derailment of two wagons in Artenay (45) on 09/03/2011 | RI | As an entity in charge of maintenance, introduce in your own maintenance documents and apply the inspection criteria for the pins under vehicles defined in the European Visual Inspection Catalogue (EVIC); as a member of the Vereinigung der Privatgüterwagen Interessenten (VPI), intervene to have the criteria in this professional association’s maintenance handbook brought into line with those of EVIC. | NACCO | Action in progress |
| 11/2012 | Catch-up of two freight trains in Maillé (37) on 01/02/2012 | RI | Ensure the recording and traceability of the regulators’ and traffic managers’ safety communications made from their service landline phones.Furthermore, BEA-TT invites the railway operators operating on the national railway network to remind their drivers of the safety requirements that apply when running on sight, notably, regarding vigilance and control over their train’s speed, so they are in a position to stop ahead of any signal or obstacle. | SNCF | This will be dealt with when the GSMR radio communication system is deployed. |
| RFF | An expression of requirements is currently being drawn up regarding the recording of safety communications between operators, covering all of the Infrastructure Manager’s functions. The goal is for finalisation in January 2015.On completion, a functional work specification will be drawn up. |

**Reports published in 2013**

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| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 06/2013 | Collision between a TER train and car in Breuil (71) on 04/12/2011 | RI | Define and implement as quickly as possible the national safety programme for unguarded level crossings with a St Andrew’s cross. | DGITM | Action in progress |
| R3 | Take the necessary measures to remove level crossing No 65 on the Lozanne to Paray-le-Monial railway line and, meanwhile, strictly limit access to it to local residents by any appropriate means.Furthermore, without making any formal recommendations, BEA-TT: invites the railway undertakings to ensure their drivers observe the ‘S’ signs and, more generally speaking, the sound warning utilisation rules; draws Réseau ferré de France’s attention to the fact that the areas around certain unguarded St Andrew’s cross level crossings make the trains’ horns difficult to hear, thus increasing the risk for road users, and invites it to take this into account in the safety programme for these level crossings. | RFF | A cost estimate has been drawn up. Given the cost, a study has been launched to do away with this LC. The removal date will be determined when this study has been completed. |
| 06/2013 | A motor-car hit an insulator in Sevran (93) on 01/02/2012 | RI | Monitor the trend regarding the number of breakages of Vt 200223 type ceramic insulators.In the event of a significant increase, remove the insulators of this type used in main-track catenaries that are in positions where they could be impacted by railway traffic in the case of breakage. | SNCF | This monitoring will consist of following up and analysing the trend regarding the number of breakages over time. The following special provisions have been put in place:* The analysis of the number of breakages of the ceramic insulators concerned will be the subject of a specific review at the time of each IFTE system commission meeting. This commission meets every six months;
* The REX CAT database is used to monitor the trend regarding the number of incidents resulting from the breakage of a ceramic insulator;
* The REX CAT tool could be improved by creating specific equipment codes in order to facilitate this monitoring. This possibility will have to be confirmed by the end of 2013.
 |
| RFF | Monitoring of the catenary components shows that the number of breakages of these insulators remains stable.The operations to eliminate insulators in the raising zones have been completed in the Bourgogne Franche-Comté and Nord Pas-de-Calais regions, and 80% completed in the Paris-Nord region. Alsace, the last region concerned, will be dealt with between 2016 and 2020. |
|  |  | R2 | Identify the characteristics of the front windscreens and of the screen heaters on the rolling stock, and the rules for using these windscreen heaters.For rolling stock equipped with front windscreens that do not comply with the EN 15 152 European standard or the NF F 15-818 French standard or an equivalent national standard, examine the possibility and relevance of improving the protection in cold weather against projectiles penetrating the driving cab, for example by clarifying the windscreen heater utilisation rules or by planning the replacement of the glass with screens offering a better resistance to impacts at low temperature. | All railway undertakings | Actions in progress |

**Reports published in 2013 (cont’d)**

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| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 06/2013 cont’d | A motor-car hit an insulator in Sevran (93) on 01/02/2012 | R3 | Make sure that the changes made to the EN 15 152 European standard relating to the front windscreens of rolling stock take into account the temperature-related variability in the glass’s resistance to impacts and guarantee that the drivers’ protection is maintained, or even improved over the whole temperature range habitually encountered on the national railway network and more particularly at negative temperatures. As a complement to this last recommendation, BEA-TT also invites the railway undertakings other than SNCF to work in the same direction in the national and international standardisation bodies they take part in.Furthermore, BEA-TT invites the AGC Glass and Saint-Gobain companies to acquire, through tests, studies or any other means, a real knowledge of the resistance to impacts of the glass used for the front windscreens of rolling stock, throughout the entire temperature range commonly encountered on the national railway network, including in hot weather with the windscreen heater in operation, and to share this knowledge in the framework of the works to revise the EN 15 152 standard. | Saint Gobain | Action closed |
| BNF | Actions in progress |
| RFF | Actions in progress |
| SNCF | SNCF’s intervention with the standardisation bodies (BNF ERA, sector, etc.), particularly regarding the EN 15-152 standard relating to the front windscreens of train cabs, is continuing in the direction desired by BEA-TT. However it should be noted that SNCF is not the decision-maker in the area of standardisation. |
| 07/2013 | Collision between a train and works equipment in Lachapelle-Auzac (46) on 04/07/2012 | RI | In the framework of the feedback from the application of the work-site assurance processes and in order to avoid deviating practices from appearing, examine the conditions that would make it possible to facilitate, in complete safety, the utilisation of the equipment-guarantee process at the time of unforeseen works that only have a slight impact on railway traffic. | SNCF | The simplification of the safety procedures has been adopted as one of the priority areas in the large-scale pluri-annual initiative that is being implemented by the SNCF infrastructure directorate to ‘Accomplish All Works in Complete Safety’.In particular, a great deal of work has been carried out to ‘lighten the Equipment-Guarantee procedure’:* relaxation of the opening train identification procedures;
* making tools available to facilitate this identification;
* improving the ergonomics of the working documents and reducing their number; introducing greater flexibility making it possible to use work-boards, without prior reservation, for unforeseen works that do not have any impact on railway traffic regularity;
* complete rethinking of the related training courses.

These provisions are already the subject of experimentation over a six-month period, which will be followed by feedback aiming to validate its continuation. |
| R2 | Remind the staff in charge of works on railway tracks that strict compliance with the loopback and protection measures guaranteeing the absence of trains that would not be able to stop before arriving at worksites is an essential requirement. | SNCF | Raising staff awareness of safety-related attitudes has been adopted as one of the priority areas in the large-scale pluri-annual initiative that is being implemented by the SNCF infrastructure directorate to ‘Accomplish All Works in Complete Safety’. |

**Reports published in 2013 (cont’d)**

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| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
|  |  |  |  |  | Up until now, only trackside-train radio communications from the regulation centres have been recorded.At present there is no recording of such communications on the traffic staff’s telephones or of the communications on the conventional railway telephony. |
| 07/2013 cont’d | Collision between a train and works equipment in Lachapelle-Auzac (46) on 04/07/2012 | R3 | Ensure the recording of all the operations-related communications made from the traffic staff’s service telephones.Furthermore, BEA-TT invites SNCF to provide feedback on the utilisation of new catenary maintenance equipment of the LORAXE type and on the conditions under which their conductors are deformed. | SNCF | In April 2013, RFF entrusted a study to SNCF (infrastructure directorate) on the feasibility of recording the conversations passing via the traffic staff, at the technical, functional, economic and social levels, and in the enforceable legal and regulatory framework.In particular, this study takes the following into account:* the feasibility of recording these conversations;
* the feasibility of restoring the traces and recordings;
* the coverage of the sites that could be adapted and those for which no change is possible;
* the cost (budget allocation) of developing these changes and of their deployment. This study should be available at the very beginning of 2014.
 |
|  |  | RFF | An expression of requirements is currently being drawn up regarding the recording of safety communications between operators, covering all of the Infrastructure Manager’s functions. The goal is for finalisation in January 2015.On completion, a functional work specification will be drawn up. |
| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 06/2013 | Derailment of a passenger train in Mercuès on 22/05/2012 | R1 | Define and implement procedures and methods for monitoring combined civil engineering works, which will make it possible to monitor them in their entirety, particularly when they include sensitive earthworks. | SNCF | SNCF is going to pursue its action on the joint updating of its procedures specific to monitoring its civil engineering works (CEW) and earthworks (EW) with a view to taking into account, in a cross-referenced way, the disorders observed on both types of works. To begin with, this system will consist of making the standards concerned coherent with each other (IN256‘Monitoring earthworks, drains and platforms’, and INI 253 ‘Monitoring civil engineering works and related constructions’, and of producing specific ‘Covered wall’ function guidelines.An initiative will then be taken to raise awareness among the stakeholders involved. |
| RFF | Thanks to a wider pooling of updating needs, the action concerning standards IN 0256 and IN 1253 will be accomplished in 2015.The production of the function guidelines in 2015 will also be backed up by a joint diagnosis of ‘covered walls’. This first step was accomplished in 2014 on a representative section of the Les Aubrais to Montauban line. |
| Systematically take into account, in the knowledge of the civil engineering works’ environment and in the definition of their monitoring procedures, the data contained in the various information and prevention documents relating to major natural risks established by the public authorities (departmental major risk dossiers, district information on major risks, natural risk prevention plans, district safeguard plans). |  | SNCF and RFF are going to engage - at the national level, and working closely with the Ministry of Ecology, Sustainable Development and Energy’s general risk prevention directorate - in an action to list and then geographically cross-reference the risk prevention plans (natural, floods, technological, etc.), in order to verify their knowledge of the existing civil engineering works’ environment. This listing action will, as a priority and systematically, concern sensitive earthworks and civil engineering works of the retaining wall and facing wall type. |
|  | A DGPR /SNCF, engineering technical directorate meeting was held on 5 June 2014 on this subject. At the RFN level it is necessary to have direct and fluid access to the geographical data (GIS). For the moment, the response from DGPR only provides intermittent access using a public tool (Cartorisques), with limited effectiveness for the problem in question. Another meeting with DGPR will be organised to review the solution to be provided for this question (letter to DGPR on 3 October 2014). Pending better means of accessing the information and in the case of line section diagnosis operations (modernisation projects, etc.), these elements are nonetheless sometimes taken into account. |

**Reports published in 2013 (cont’d)**

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| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 08/2013 cont’d | Derailment of a passenger train in Mercuès on 22/05/2012 | R3 | Develop simple real-time railway traffic alert systems, drawing inspiration from national and foreign road and rail developments which can be implemented quickly awaiting lasting measures, in the case of dangerous disorders affecting the constructions. | SNCF | RFF and SNCF are pursuing their feasibility studies aiming to implement new, simple alert systems. In particular it is a question of seeking reliable, efficient systems that are simple to implement and free from constraints regarding interactions with the existing signalling from an international panel of railway networks and road managers. RFF and SNCF undertake to carry out experiments on the systems identified in order to check their capacity for being integrated in the railway environment. |
| RFF | A research project (Dimodo) began in 2014; benchmarking initiatives launched at an earlier time were pursued. They made it possible to identify:1. A localised mobile system - the laser scanner - which will be tested in the field in 2015 (test to check its ability to detect an obstacle and its aptitude for integration in the railway system to be assessed);
2. A fixed linear system - optical fibre - which will also be tested in the field in 2015. This system is also being tested relating to the same problem on another European network.
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**Reports published in 2014**

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| **Report date** | **Investigation title** | **No** | **Wording of the recommendation** | **Entity** | **Action status** |
| 01/2014 | Derailment of an Intercités train in Bretigny-sur-Orge (91) on 12/07/2013 | RI | Improve the overall level of control over track gear bolted assemblies by focussing on various factors, notably:* the technical specifications and the quality of the components;
* the bolt locking devices;
* compliance with the bolt tightening instructions and, more generally speaking, compliance with the specifications and best practices at the time of installation and of maintenance operations on these assemblies.
 | SNCF | Experimentation phase on new assemblies on two double slip crossing type track systems. |
| R2 | Clarify and strengthen the rules relating to the measures to be taken if defects are detected affecting the bolts on points and crossings.In this framework, indicate the maximum lead-time after any intervention or inspection round, within which all the bolts must be present and tightened. Likewise, indicate this same time for second-level attachments. | SNCF | Action in progress |
| R3 | Identify the points and crossings or groups thereof that have special features requiring strengthened maintenance or early regeneration with respect to the general instructions. Include provisions in the general maintenance organisation or in that of the site that ensure that these particularities are taken into account in a reliable and auditable way. | SNCF | Action in progress |
| 06/2014 | Collision between a TER train, a minibus and car in Amilly (28) on 27/11/2012 | RI | On level crossings where the announcement continuity zone is separated from the short zone (downline setup) improve the safety of the ‘announcement resetting by the short zone’ function, either by means of a technical modification of the resetting circuit, or by means of a modification of the maintenance rules for the electrical junctions concerned. | SNCF | In the framework of new or significantly modified installations: for this type of setup with the announcement continuity zone separated from the short zone (downline setup), the resetting circuit will be modified technically, for the normal running direction, in order to add a new condition. The resetting condition will be: ‘short zone + zone supporting the occupied short zone’.In the framework of the existing installations, for setups of this type, the systematic preventive maintenance rule will be modified: the short-circuit tuning blocks will systematically be replaced when they are 20 years old. |
| RFF | Answer sent to BEA TT on 15 October 2015. No additional information at this stage. |

**Reports published in 2014 (cont’d)**

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| Report date | Investigation title | No | Wording of the recommendation | Entity | Action status |
| 06/2014 cont’d | Collision between a TER train, a minibus and car in Amilly (28) on 27/11/2012 | R2 | Amend specification SAM S 004 so the assessment of the shunting capability of diesel locomotives equipped with scrubbers coupled with the pneumatic brake take account of the fact that, during their lifetime, these locomotives will inevitably cover significant distances without braking. | EPSF | Actions in progress: publication planned for the end of the first half of 2015 |
| R3 | Provide feedback focused on deshuntings involving diesel locomotives running light. Check whether the series equipped with scrubbers coupled with the brakes have a higher than average deshunting frequency, only taking into account journeys done running light. Where applicable define the measures to be taken. | SNCF | All deshuntings are already the subject of feedback. Pursuant to IN 2875, this feedback is sent to DPI-SQ-RE and PSIG-T.Furthermore around ten recorders on the network record residual voltages measured when trains pass. PSIG-T analyses all these data and ensures reporting both within SNCF at the time of the quarterly ‘shunting’ technical committee meetings, and to RFF at the time of the half yearly ‘shunting’ committee meetings to which EPSF is invited.The monitoring of locomotives running light can be extracted from the general deshunting follow-up carried out by PSIG-T. It will be suggested to RFF that this specific follow-up should be put on the agenda of the shunting committee meetings.Concerning paragraphs 2 and 3 of this recommendation, for SNCF the only series of locomotives equipped with scrubbers coupled with the brakes are the BB 60000. For this locomotive, the only event known to PSIG-T, excluding the one examined in Amilly by BEA-TT in the case where it has been selected, corresponds to the deshunting in Courville on 11/11/2013, owing to contamination of the locomotive’s tread surface. At this stage, it would appear difficult to define specific measures in view of this feedback alone. |
| EPSF | Actions in progress:* EPSF makes sure the feedback provided by the infrastructure manager covers the cases involving diesel locomotives running light;
* comparative analysis for the end of the second quarter 2015 at the latest.
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**Reports published in 2014 (cont’d)**

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| Report date | Investigation title | No | Wording of the recommendation | Entity | Action status |
| 10/2014 | Derailment of a TER train in Lyon Guillotière (69) on 26/06/2013 | RI | Whenever 984 type axles are concerned, include the systematic check that the axle painting process is lastingly under control in the axle repair load allocation and workshop quality monitoring processes. | SNCF | The production and repair of the 984 have been centralised in just two sites that have installations suited to this type of axle: the Languedoc Roussillon maintenance Technicentre (Nîmes site) and the Picardie industrial Technicentre.These two sites’ safety monitoring plans include a verification that the repair procedure is applied. |
| R2 | Finalise the drafting of version B of technical data sheet TRI 018 relating to the elimination of axle defects and put it into application taking care, by means of any appropriate means, to ensure the instructions are fully understood and applied by all the staff responsible for implementing them. Issue the surface honing training module (MAORRAG) to all the staff in the repair centres assigned to this task, including the staff already posted to this position. | SNCF | The sheet was published in June 2014.The training module (surface honing MAOR RAG) has been implemented since June 2014 and it is currently being issued to all the staff in the repair centres (completion scheduled for end of 2015).Note: For the Languedoc Roussillon maintenance Technicentre (Nîmes site) and Picardie industrial Technicentre, all staff have taken this module. |

1. Summary of the changes made to the French, EU and international regulations in 2014

**NATIONAL REGULATIONS**

**Law**

* Law No 2014-872 of 4 August 2014 on railway reform

*This law has created the following entities in particular:*

* *SNCF Réseau (taking on the activities of RFF and SNCF as delegated infrastructure manager (DIM))*
* *SNCF Mobilités (former SNCF activity as a railway undertaking (RU))*
* *SNCF Epic heading up the group (constituted by SNCF Réseau and SNCF Mobilités)*

*It extends the missions of ARAF (Railway activities regulation authority) and of the EPSF in the area of the promotion and distribution of best practices concerning the application of the regulations.*

**Decrees**

* Decree No 2014-121 of 11 February 2014 relating to the safety of railway traffic safety and the interoperability of the railway system

*This decree modifies Decree No 2006-1279 of 19 October 2006 as modified relating to the safety of railway traffic and the interoperability of the railway system, in order to transpose Directive 2013/9/EU defining the essential requirements in the area of accessibility for people with reduced mobility.*

* Decree No 2014-530 of 22 May 2014 relating to certain provisions of the regulatory part of Transport Law

*The purpose of this decree is to codify, on the basis of established law, the common provisions of the regulatory part of Transport Law. This part concerns the general principles governing the transport activity.*

* Decree No 2014-1271 of 23 October 2014 relating to the exceptions to application of the principle ‘silence amounts to acceptance’ on the basis of II of Article 21 of Law No 2000-321 of 12 April 2000 relating to the rights of citizens in their relations with the civil service and to the exceptions to the two-month period giving rise to implicit decisions on the basis of II of this article (Ministry of Ecology, Sustainable Development and Energy)
* Decree No 2014-1272 of 23 October 2014 relating to the exceptions to the two-month period giving rise to implicit decisions on the basis of II of Article 21 of Law No 2000-321 of 12 April 2000 relating to the rights of citizens in their relations with the civil service (Ministry of Ecology, Sustainable Development and Energy)
* Decree No 2014-1273 of 30 October 2014 relating to the exceptions for the application of principle

‘silence amounts to assent’ on the basis of 4° of I of Article 21 of Law No 2000-321 of 12 April 2000 relating to the rights of citizens in their relations with the civil service and to the exceptions to the two-month period giving rise to implicit decisions on the basis of II of this article (Ministry of Ecology, Sustainable Development and Energy)

*These three decrees stipulate the exceptions to the application of the principle set forth by Law No 200-321 whereby the silence kept by the civil service for one month amounts to acceptance of a request submitted by a citizen.*

**Orders**

* Order of 2 June 2014 modifying the Order of 19 March 2012 setting forth the safety goals, methods, indicators and the technical regulations relating to safety and interoperability applicable to the French railway network.

*This order modifies Annex 1 listing the Technical Specifications for Interoperability (TSI).*

* Order of 2 December 2014 modifying the order of 29 May 2009 relating to the transport of dangerous goods by land (so-called ‘TMD order’).

*This new order modifies the order of 29 May 2009 relating to the transport of dangerous goods by land (so-called*

*‘TMD order’). It details:*

* + *the functions of the safety advisor;*
	+ *the conditions for declaring events involving dangerous goods;*
	+ *the system that applies to tanker wagons;*
	+ *the approvals and inspections of the tankers and certain items of equipment.*

**Decision**

* Decision of 31 July 2014 granting an exemption in respect of Title III of Article 124 to the order of 19 March 2012 setting forth the safety goals, methods, indicators and the technical regulations relating to safety and interoperability applicable to the French railway network.

*The Minister delegated to transport granted an exemption in respect of Title III of Article 124 of the Order of 19 March 2012. Its purpose is to maintain in force until 31 October 2015 the provisions of two operating documents: UN 3431 and UN 1419.*

**EU REGULATIONS**

**Directives**

* Commission Directive 2014/82/EU of 24 June 2014 amending Directive 2007/59/EC of the European Parliament and of the Council as regards general professional knowledge and medical and licence requirements

*This directive modifies Annexes II, IV and VI (respectively: requirements regarding vision; content of the training and examinations concerning general professional knowledge; language skills) of Directive 2007/59/EC.*

* Commission Directive 2014/88/EU of 9 July 2014 amending Directive 2004/49/EC of the European Parliament and of the Council as regards common safety indicators and common methods of calculating accident costs

*This directive modifies Annex I of Directive 2004/49/EC which details the common safety indicators (CSI).*

* Commission Directive 2014/106/EU of 5 December 2014 amending Annexes V and VI to Directive 2008/57/EC of the European Parliament and of the Council on the interoperability of the rail system within the Community. This directive modifies Annexes V and VI of Directive 2008/57/EC. It merges the EC declaration on the verification of a subsystem and that on compliance with the national rules within a single EC verification declaration. This modification also aims to clarify the role of the Notified Bodies (NoBo) in the EC verification procedure on subsystems, the content and scope of the EC declaration and the principles to be applied in the case where a subsystem is modified.

**Regulations**

* Commission Implementing Regulation (EU) 869/2014 of 11 August 2014

*Implementing Regulation (EU) 869/2014 was adopted on 11 August 2014 in order to set forth the procedures for implementing Directive 2012/34/EU establishing a single European railway area. It concerns ‘the new passenger railway transport services’.*

* Commission Implementing Regulation (EU) No 870/2014 of 11 August 2014

*This implementing regulation sets forth the procedures for Implementing Directive 2012/34/EU establishing a single European railway area. It concerns the criteria applicable to the candidates for requests for railway infrastructure capacity.*

* Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the ‘infrastructure’ subsystem of the rail system in the European Union

*This regulation revises the TSI relating to the ‘Infrastructure’ subsystem for the conventional system and the high speed system. It comes into force on 1 January and repeals Decisions 2008/217/EC (HS INF TSI) and 2011/275/EU (CR INF TSI). It thus merges in a single TSI the requirements relating to the high speed railway system with those relating to the conventional system. It also extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN, in line with Article 8 of Directive 2008/57/EC.*

* Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union’s rail system for persons with disabilities and persons with reduced mobility

*This regulation revises the TSI relating to people with reduced mobility (PRM). It comes into force on 1 January 2015 and on that date repeals Decision 2008/164/EC (previous PRM TSI).*

*This revision extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN, in line with Article 8 of Directive 2008/57/EC. Exemption measures relating to the implementation of this TSI in the existing non-TEN stations have been introduced.*

*This revision also aligns the definition of persons with reduced mobility with that of the UN and revises the technical requirements by favouring the high-level functional requirements whenever possible.*

* Commission Regulation (EU) No 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the ‘energy’ subsystem of the rail system in the Union

*This regulation revises the TSI relating to the ‘energy’ subsystem for the conventional system and the high speed system. It comes into force on 1 January 2015 and on that date repeals Decisions 2008/284/EC (HS ENE TSI) and 2011/274/EU (CR ENE TSI). It merges in a single TSI the requirements relating to the high speed railway system with those relating to the conventional system.*

*It also extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN, in line with Article 8 of Directive 2008/57/EC.*

* Commission Regulation (EU) No 1302/2014 of 18 November 2014 concerning a technical specification for interoperability relating to the ‘rolling stock — locomotives and passenger rolling stock’ subsystem of the rail system in the European Union

*This regulation revises the TSI relating to the ‘rolling stock — locomotives and passenger rolling stock’ subsystem It comes into force on 1 January 2015 and repeals Decisions 2008/232/EC (HS RST TSI) and 2011/291/EU (CR LOC&PAS TSI).*

This revision:

* merges in a single TSI the requirements relating to the high speed railway system with those relating to the conventional system.
* extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN, in line with Article 8 of Directive 2008/57/EC.
* includes directly in the TSI the requirements relating to rolling stock, previously covered in the ‘safety in tunnels’ TSI;
* closes a certain number of points opened in two earlier TSIs relating to the rolling stock subsystem and updates certain requirements to take into account the updates to the standards.
* Commission Regulation (EU) No 1303/2014 of 18 November 2014 concerning the technical specification for interoperability relating to ‘safety in railway tunnels’ of the rail system of the European Union. *This regulation revises the Technical Specification for Interoperability (TSI) relating to safety in railway tunnels. It comes into force on 1 January 2015 and repeals Decision 2008/163/EC (previous TSI relating to safety in railway tunnels).*

*This revision:*

* *extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN (Trans-European Network), in line with Article 8 of Directive 2008/57/EC.*
* *updates the requirements relating to the reaction to fire and fire resistance in line with the updates made to the EN 45 545 and 50 553 standards;*
* *clarifies the notions of refuge and of rescue stations;*
* *now covers tunnels more than 20 km long;*
* *refers to the revised LOC&PAS TSI (Regulation 1302/2014), for the requirements relating to the rolling stock subsystem.*
* Commission Regulation (EU) No 1304/2014 of 26 November 2014 on the technical specification for interoperability relating to the subsystem ‘rolling stock — noise’ amending Decision 2008/232/EC and repealing Decision 2011/229/EU

*This regulation extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN (Trans-European Network), in line with Article 8 of Directive 2008/57/EC. In a single TSI it gives the requirements relating to the conventional system (Decision 2011/229/ EU TSI ‘Rolling Stock Noise’ and those relating to the high speed system, whereas the latter were previously given in the ‘HS RST’ TSI (Decision 2008/232/EC). This regulation revises the noise levels and the assessment methods.*

* Commission Regulation (EU) 1305/2014 of 11 December 2014 on the technical specification for interoperability relating to the telematics applications for freight subsystem of the rail system in the European Union and repealing the Regulation (EC) No 62/2006

*This regulation revises the technical specification for interoperability (TSI) relating to the telematics applications for freight (TAF) subsystem. It comes into force on 1 January 2015 and repeals Decision 62/2006/EC (previous TSI relating to this subsystem).*

*This revision:*

* *extends the TSI’s scope of application to the whole of the European Union’s railway network, no longer simply covering the TEN (Trans-European Network), in line with Article 8 of Directive 2008/57/EC.*
* *states the obligation for ERA to make available on its website the baseline files making it possible to implement the specifications of the TSI, based on the model of what has already been done in the framework of the ‘TAP’ TSI;*
* *introduces additional obligations regarding the information the railway undertakings must provide to their customers;*
* *introduces the obligation for each Member State to provide a national contact point in charge of implementing the regulation.*

**Decision**

* Commission Implementing Decision 2014/880/EU of 26 November 2014 on the common specifications of the register of railway infrastructure and repealing Implementing Decision 2011/633/EU [notified under the number C(2014) 8784]. This decision revises the specifications relating to the infrastructure register. It applies as from 1 January 2015 and repeals Decision 2011/633/EU.

It consists of a revision of certain parameters. The infrastructure register’s implementation dates have been clarified and pushed back by six months for the first deadline (October 2015 instead of March 2015 initially for the input of the data relating to the corridors and new lines put into service since Directive 2008/57/EC came into force).

**Recommendations**

* Commission Recommendation 2014/881/EU of 18 November 2014 — Revision of the recommendation on the procedure for demonstrating the level of compliance of existing railway lines with the basic parameters of the technical specifications for interoperability

*This revision of the recommendation aims to take account of the publication of the new Technical Specifications for Interoperability (TSI) (Infrastructure, Energy, Persons with reduced mobility) whose scope has been extended. It merges the high speed and conventional networks. The procedure described in the annex should be used to establish the level of the existing railway lines’ compliance with the basic parameters of the technical specifications for interoperability. This recommendation replaces recommendation 2011/622/EU.*

* Commission Recommendation 2014/897/EU of 5 December 2014 on matters related to the placing in service and use of structural subsystems and vehicles under Directives 2008/57/EC and 2004/49/EC of the European Parliament and of the Council

*This so-called ‘DV29 bis’ recommendation deals with the placing in service of subsystems. It repeals recommendation 2011/217/EU which covered the same subject and provides clarifications on the aspects of Directive 2008/57/EC relating to the authorisation to put subsystems into service.*

*It came into force on 1 January 2015.*

**INTERNATIONAL REGULATIONS**

**Appendices to the OTIF convention (COTIF)**

Further to the 25th session of the OTIF Revision Committee that was held on 25 and 26 June 2014, OTIF notified its members of the following modifications on 10 July 2014:

* Appendix D (CUV) of the COTIF

Article 2 of Appendix D (CUV) relating to the uniform rules linked to the contract for the utilisation of vehicles has been amended to add the definition of ‘holder’.

* Appendix E (CUI) of the COTIF

Article 5 of Appendix E (CUI) relating to the uniform rules linked to the contract for the utilisation of infrastructure has been amended concerning the content and form of said utilisation contract.

* Articles 8 and 12 of Appendix F (APTU) relating to the validation of the technical requirements and the adoption of the uniform technical prescriptions (UTP) have been amended regarding said UTPs’ scope and format.
* Articles 2, 3a to 8, and 10 to 20 of Appendix G (ATMF) relating to the uniform rules concerning the technical admission of railway material have been amended. A new Article 15a on the composition and operation of trains has been added in order to adapt the ATMFs to the most recent developments in the European Union and better define the responsibilities of the different stakeholders concerned by these uniform rules. In parallel, with a view to harmonisation with the terms used in the European Union, certain terms used by OTIF have been modified in order to avoid any ambiguity in their application.

**UNIFORM TECHNICAL PRESCRIPTIONS (UTP)**

Further to the 7th session of the OTIF’s Committee of Technical Experts that was held on 5 June 2014, OTIF notified its members of the following modifications:

* Modification of the generic UTP A (UTP ‘GEN-A’ — Notification of 18 July 2014) relating to the essential requirements, so as to introduce, in parallel with the modifications made in Annex III of the ‘Interoperability’ Directive (2008/57/EC), essential requirements relating to accessibility and noise
* Modification of the generic UTP C (UTP ‘GEN-C’ — Notification of 18 July 2014) relating to the content of the technical admission dossiers, so as to introduce, in parallel with the modifications made in Annex VI of the ‘Interoperability’ Directive (2008/57/EC), at the level of the content of the applicant’s technical dossier (see Directive 2014/106/EU explained earlier in this report)
* Modification of the UTP for wagons (UTP ‘WAG’ — Notification of 18 July 2014): bringing the UTP ‘WAG’ into line with the revisions of the ‘WAG’ Technical Specification for Interoperability (TSI) (Regulation (EU) No 321/2013 as amended by the Regulation (EU) No 1236/2013)
* Creation of a UTP for locomotives and passenger trains (UTP ‘LOC&PAS’ — Notification of 18 July 2014): transposition of the ‘LOC&PAS’ Technical Specification for Interoperability (TSI) (Regulation [EU] No 1302/2014)
* Creation of a UTP for persons with reduced mobility (UTP ‘PRM’ — Notification of 18 July 2014): transposition of the ‘PRM’ Technical Specification for Interoperability (TSI) (Regulation [EU] No 1300/2014)
* Creation of a Marking UTP (PTU ‘MARKING’ — Notification of 18 July 2014): transposition of Appendix P of the ‘OPE’ Technical Specification for Interoperability (TSI) (Regulation [EU] No 757/2012) and of the decision (EU) No 2007/756 relating to the national vehicle registers
1. EPSF Publications

**Traffic safety**

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference** | **Title** | **AMC** | **Application date** |
| DC A-B 0 No 2 Version 1 | Vocabulary used in the EPSF ‘traffic safety’ standards |  | 8 June 2014 |
| DC A-B 1c No 1 Version 1 | Determining the KVB on-board parameters | X |
| RC A-B 1d No 1 Version 1 | Information for drivers concerning signalling modifications | X |
| RC A-B 1e No 1 Version 1 | Constitution and problems with the front signalling carried by trains | X |
| RC A-B 2c No 3 Version 1 | Operating instructions for hot box detectors in the national railway network | X |
| RC A-B 6a No 1 Version 1 | Manoeuvring safety installations by Safety Installation operators | X |
| RC A-B 7a No 1 Version 3 | General rules relating to the composition, trailer, braking, limit speed and train weight | X |
| AC A-B 7a No 4 Version 2 | Immobilisation by a driver of a train being pulled by one or more locomotives | X |
| DC A-B 7c No 1 Version 1 | Description of vehicle couplings, other linkages and braking systems |  |
| RC A-B 7c No 1 Version 1 | Couplings, other linkages, braking systems and verification of brake operation | X |
| RC A-B 7d No 2 Version 1 | Conditions for dispatching intermodal transport units; | X |
| RC A-B 8a No 1 Version 1 | General provisions relating to manoeuvres | X |
| RC A-B 8a No 2 Version 1 | Vehicles subject to certain ‘Switching’ ‘Classification’ restrictions  | X |
| RC A-B 1c No 1 Version 1 | Safety systems and on-board automation | X | 14 December 2014 |
| RC A-B 2d No 2 Version 1 | Driving event recorders | X |
| RC A 7d No1 Version 1 | Acceptance of a vehicle not carrying out any public transport activity and that does not have an AMEC or so-called ‘rolling goods’ traffic approval | X |

Repeal — Traffic safety

|  |  |  |
| --- | --- | --- |
| **Reference** | **Title** | **Application date** |
| RC A-B 2d No 3 Version 1 | Test of brake operation after a train has started to run | 8 June 2014 |
| RC A-B 7a No 1 Version 3 | General rules relating to the composition, trailer, braking, limit speed and train weight |
| AC A-B 7a No 1 Version 1 | Coupling / uncoupling |
| RC A-B 7a No 2 Version 1 | Brake tests applicable to trains |
| AC A-B 7a No 2 Version 1 | Carrying out brake tests by means of a train’s locomotive |
| RC A-B 7a No 3 Version 1 | Braking report - Description - Utilisation |
| AC A-B 7a No 3 Version 1 | Emergency systems on-board vehicles |
| RC A-B 7a No 4 Version 1 | Determining the load weight of a train’s vehicles |
| AC A-B 7a No 4 Version 1 | Immobilisation by a driver of a train being pulled by one or more locomotives |
| RC A-B 7a No 5 Version 1 | Exceptional cases and incidents relating to train composition and braking |
| RC A-B 7a No 6 Version 1 | Malfunctioning of the signalling carried by trains |
| RC A-B 7a No 9 Version 1 | Special features relating to the rear signalling of trains on certain lines and in certain tunnels |
| DC A-B 7a No 1 Version 1 | Description and functions of the safety systems installed on trains’ locomotives | 14 December 2014 |
| RC A-B 7a No 7 Version 1 | Malfunctions of the safety systems installed on trains’ locomotives |
| RC A-B 7a No 8 Version 1 | Malfunctioning of a system making it possible to drive a train with a single driver |

**Repeal of texts formerly appended to the Order of 23 June 2003 as modified relating to the safety regulations that apply on the national railway network**

|  |  |  |
| --- | --- | --- |
| Reference | Title | Application date |
| IN 1497 | Information for drivers concerning signalling modifications | 8 June 2014 |
| IN 1498 | Notification/ Signalling |
| IN 1683 | Switching |
| FR 131 | Vehicles subject to certain ‘Switching’ ‘Classification’ restrictions |
| Regulation 001 | Requirements relating to the loading, composition, braking, limit speed and equipment of trains for running on RFN |
| IN 1384 | Isolation and malfunctioning of on-board safety systems | 14 December 2014 |
| IN 1493 | Signal repeater systems — Speed checks and run-throughs |
| IN 2602 | Recorders of traffic safety-related events |

1. Authorisations issued by EPSF in 2014

|  |  |
| --- | --- |
|  | **Total number of certificates** |
| Number of part A safety certificates issued in previous years and valid for 2014 | 20 |

|  |  |
| --- | --- |
|  | **Total number of certificates** |
| Number of part B certificates issued in previous years and valid for 2014 | Number of part B certificates for which part A was issued in France | 20 |
| Number of part B certificates for which part A was issued in another Member State  | 14 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Requests accepted** | **Requests rejected** | **Applications pending** |
|  |  |
| Number of new requests for part A safety certificates submitted by the railway undertakings in 2014 | New certificates | 2(1) |  | 1(3) |
| Updated/modified certificates | 3(2) |  | 1(4) |
| Renewal of certificates | 0 |  |  |

(1) CAPTRAIN ITALIA SRL REGIORAIL / (2) ETMF ETF SERVICES OSR FRANCE / (3) SNCF MOBILITES / (4) TRENITALIA

|  |  |  |  |
| --- | --- | --- | --- |
|  | Requests accepted | Requests rejected | Applications pending |
| Number of new requests for part A safety certificates submitted by the railway undertakings in 2014 | When part A was issued in France | New certificates | 2(1) |  |  |
| Up-to-date/ modified certificates | 2 (2) |  | 1(7) |
| Renewal of certificates | 1(3) |  |  |
| When part A was issued in another Member State | New certificates | 2(4) |  |  |
| Up-to-date/ modified certificates | 3(5) |  | 1(8) |
| Renewal of certificates | 1(6) |  |  |

(1) CAPTRAIN ITALIA SRL REGIORAIL / (2) CFR THELLO ETF SERVICES OSR FRANCE / (3) CFR / (4) DB SCHENKER RAIL NEDERLAND VLEXX GMBH / (5) SVI TRENITALIA CFLCARGO / (6) NORDCARGO / (7) SNCF MOBILITES / (8) TRENITALIA

1. List of holders of authorisations issued by EPSF

**Lists of railway undertakings that held a safety certificate as at 31 December 2014 on the RFN**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Railway undertakings** | **Safety certificate’s first date of issue** | **Current safety certificate’s date of issue** | **Part A** | **Part B** | **Commercial service launch date** |
| 1 | TRENITALIA | 31 March 2010 | 31 March 2010 |  | 12 201 FR 0004 | 22 February 2011 |
| 2 | CFR | 21 July 2010 | 21 July 2010 | 11 201 FR 0001 | 12 201 FR 0002 | 19 November 2010 |
| 3 | EUROSTARINTERNATIONALLIMITED | 30 August 2010 | 30 August 2010 |  | 12 201 FR 0020 | 1 September 2010 |
| 4 | ECR | 30 September 2010 | 30 September 2010 | 11 201 FR 0003 | 12 201 FR 0004 | 13 May 2006 |
| 5 | EUROPORTE CHANNEL | 29 October 2010 | 29 October 2010 | 11 201 FR 0020 | 12 201 FR 0021 | 26 November 2007 |
| 6 | OSR FRANCE | 19 October 2010 | 18 November 2010 | 11 201 FR 0022 | 12 201 FR 0004 | 13 December 2010 |
| 7 | CROSSRAIL BENELUX | 25 November 2010 | 25 November 2010 | 11 201 FR 0006 11 201 FR 0018 | 12 201 FR 0024 | 16 November 2011 |
| 8 | SNCB LOGISTICS | 21 February 2011 | 14 April 2011 | 12 201 FR 0003 | 14 April 2011 |
| 9 | ETF SERVICES | 27 June 2011 | 27 June 2011 | 12 201 FR 0007 | 5 July 2011 |
| 10 | RENFE | 17 December 2010 | 27 June 2011 | 12 201 FR 0007 | 21 December 2010 |
| 11 | COMSA RAIL TRANSPORT | 11 July 2011 | 11 July 2011 | 12 201 FR 0016 | 15 June 2012 |
| 12 | TX LOGISTIK | 21 November 2010 | 18 October 2011 | 12 201 FR 0017 | 21 September 2012 |
| 13 | EUROPORTE FRANCE | 19 October 2011 | 19 October 2011 | 12 201 FR 0019 | 13 June 2005 |
| 14 | RDT 13 | 17 November 2012 | 17 November 2011 | 11 201 FR 0022 | 12 201 FR 0023 | 11 June 2012 |
| 15 | COLAS RAIL | 29 November 2014 | 29 November 2011 | 11 201 FR 0025 | 12 201 FR 0026 | 8 January 2007 |
| 16 | SVI | 25 April 2012 | 25 April 2012 | 12 201 FR 0020 | 25 April 2012 |
| 17 | NORDCARGO | 16 May 2012 | 16 May 2012 | 12 201 FR 0019 |  |
| 18 | SNCF | 20 June 2011 | 24 May 2012 | 11 201 FR 0007 | 12 201 FR 0008 | 1938Prior to the obligation to be a safety certificate holder |
| 19 | EGENIE | 18 July 2012 | 18 July 2012 | 11 201 FR 0013 | 12 201 FR 0014 | 22 June 2013 |
| 20 | ETMF | 13 August 2012 | 13 August 2012 | 11 201 FR 0015 | 12 201 FR 0016 | 20 August 2012 |
| 21 | VFLI | 16 August 2012 | 16 August 2012 | 11 201 FR 0017 11 201 FR 0024 | 12 201 FR 0018 | 04 October 2007 |
| 22 | CFLCARGO | 26 December 2012 | 26 November 2012 | 12 201 FR 0023 | 4 February 2008 |
| 23 | NORMANDIE RAIL SERVICES | 21 December 2014 | 21 December 2012 | 12 201 FR 0025 | 16 November 2013 |
| 24 | THELLO | 30 July 2011 | 5 April 2013 | 11 201 FR 0003 | 12 201 FR 0004 | 11 December 2011 (under the designation TVT) |
| 25 | SECURAIL | 25 June 2013 | 25 June 2013 | 11 201 FR 0012 | 12 201 FR 0013 | 10 July 2013 |
| 26 | TMR | 28 June 2013 | 28 June 2013 |  | 12 201 FR 0015 | 28 June 2013 |

**Lists of railway undertakings that held a safety certificate as at 31 December 2014 on the RFN — cont’d**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Railway undertakings** | **Safety certificate’s first date of issue** | **Current safety certificate’s date of issue** | **Part A** | **Part B** | **Commercial service launch date** |
| 27 | TSO | 4 March 2009 | 4 July 2013 | 11 201 FR 0005 | 12 201 FR 0006 | 29 July 2009 |
| 28 | FER ALLIANCE | 29 September 2013 | 23 September 2013 | 11 201 FR 0017 | 12 201 FR 0018 | 6 February 2014 |
| 29 | DB SCHENKER RAIL NEDERLAND | 21 October 2014 | 21 October 2014 |  | 12 201 FR 0007 |  |
| 30 | VLEXX GMBH | 29 October 2014 | 29 October 2014 |  | 12 201 FR 0008 |  |
| 31 | THI FACTORY | 26 November 2014 | 26 November 2014 |  | 12 201 FR 0010 |  |
| 32 | CAPTRAIN ITALIA SRL | 5 December 2014 | 5 December 2014 |  | 12 201 FR 0011 |  |
| 33 | REGIORAIL LR | 9 December 2014 | 9 December 2014 | 11 201 FR 0014 | 11 201 FR 0015 | 14 December 2014 |

**List of infrastructure managers holding a safety authorisation as at 31 December 2014**

|  |  |
| --- | --- |
| **Names** | **Date of issue of authorisation** |
| Réseau ferré de France (RFF) | 14 February 2013 |
| SNCF acting as delegated infrastructure manager | 14 February 2013 |
| TP FERRO | 15 December 2010 |

Definitions and Acronyms

used in this report

|  |  |
| --- | --- |
| **AFRA** | Association française du rail (French rail association) |
| **AFWP** | Association française des professionnels du wagon (French association of wagon professionals) |
| **AMEC** | Autorisation de mise en exploitation commerciale (authorisation to put into commercial service) |
| **NSA** | National safety authority |
| **ANSF** | Agenzia nazionale per la sicurezza delle ferrovie (Italian NSA) |
| **ARAF** | Autorité de régulation des activités ferroviaires (Railway activities regulation authority) |
| **BEA-TT** | Bureau d’enquête sur les accidents de transport terrestre (Land transport accident investigation bureau)  |
| **BIM** | Bulletin d’information mensuel (Monthly information bulletin) |
| **EC** | European Commission  |
| **CLE** | Consigne locale d’exploitation (Local operating instruction)  |
| **CLO** | Consigne locale opérationnelle (Local operational instruction)  |
| **CPER** | Contrat de plan État/Région (State/Region plan contract)  |
| **SC** | Safety certificate  |
| **CSS** | Central sous-stations (Substation centre) |
| **DCF** | Direction des circulations ferroviaires (Railway traffic Directorate)  |
| **DOS** | Dossier de définition de sécurité (Safety definition dossier)  |
| **DPS** | Dossier préliminaire de sécurité (Preliminary safety dossier) |
| **EBA** | Eisenbahn-Bundesamt (German NSA)  |
| **ECM** | Entity in charge of maintenance  |
| **RU** | Railway undertaking |
| **ERA** | European Railway Agency |
| **ERTMS** | European Rail Traffic Management System  |
| **ETCS** | European Train Control System |
| **FIF** | Fédération des industries ferroviaires (Federation of railway industries) |
| **IM** | Infrastructure Manager |
| **DIM**  | Delegated Infrastructure Manager |
| **GSM-R**  | Global System for Mobile communications for Railways (communications system based on the GSM mobile telephony standard, using specific frequencies for the railways) |
| **ILT** | Inspectie Leefomgeving en Transport (Dutch ANS) |
| **CSI** | Common safety indicators |
| **KVB** | Contrôle de vitesse par balise (Balise speed control) |
| **AMC**  | Acceptable means of compliance  |
| **FWSIs**  | Fatalities and weighted serious injuries  |
| **CSM**  | Common safety method |
| **OQA** | Organisme qualifié agréé (Qualified approved organisation) |
| **CST** | Common safety targets |
| **OTIF** | Intergovernmental Organisation for International Carriage by Rail |
| **PCD** | Poste de commande à distance (Remote control station) |
| **PIPC** | Poste informatique à technologie PC (PC-technology computer workstation) |
| **LC** | Level crossing |
| **UTP** | Uniform technical prescription |
| **REX** | Feedback |
| **RISC** | Railway interoperability and safety committee |
| **RFN** | Réseau ferré national (National railway network) |
| **RFF** | Réseau ferré de France |
| **SAI** | Signal d’alarme par téléphonie (Intercom emergency signal) |
| **SEI** | Système d’enclenchement intégré (Integrated triggering system) |
| **SMS** | Safety Management System |
| **TSI** | Technical Specification for Interoperability |
| **TER** | Train express régional (Regional express train) |
| **TJD** | Traversée jonction double (Double slip crossing) |
| **TMD** | Transport de marchandise dangereuse (Dangerous goods transport) |
| **TVM** | Transmission voie machine (Track-machine transmission) |
| **EU** | European Union |
| **UTP** | Union des transports publics (ferroviaires) (Public transport union - railways) |
| **NRV** | National Reference Value |

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The EPSF exercises the functions vested in the National Authority for Railway Safety within the meaning of Directive 2004/49/EC, on behalf of the Minister for Transport and in the framework of applicable regulations.

1. *Source: investigation report No 2014 – AS – 057 published on 26 July 2014.* [↑](#footnote-ref-1)
2. *Including all the centres commanding block signals that had not been inspected since the beginning of the year.* [↑](#footnote-ref-2)
3. Four-axle gondola cars with simultaneous bilateral massive gravity unloading from the top and a payload > 60t. [↑](#footnote-ref-3)
4. In an attachment system including two stages of attachment, it concerns the stage that makes it possible to attach the infrastructure component to the actual attachment system. [↑](#footnote-ref-4)
5. *The ‘block-tram’ operating mode is used in cases where the speed can be as high as 100 km/h. It includes automatic spacing signalling. The signals are announced, with the exception of the station exit signals, the signals approached in ‘tramway’ mode, and the mode transition signals. The intersections with roads are protected with level crossings.* [↑](#footnote-ref-5)