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| **ANNUAL REPORT**  **2016**  **on the investigation of Public Railway Network Accidents and Incidents** |
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**Rail Accident Investigation Commission – CIAF. June 2017**

**Rail Accident Investigation Commission – CIAF**

**Ministry of Public Works**

**Government of Spain**

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**Spain**

**NIPO: 161-15-060-4**

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# INTRODUCTION

## Object and scope

The Rail Accident Investigation Commission (CIAF) submits its 2016 Annual Report. This report has been drafted in compliance with the obligation laid down in Directive 49/2004/EC on Railway Safety, also provided for in Directive EU/2016/798, according to which each Member State is required to publish an annual report summarising the investigations conducted by its national investigation body. This is the ninth report of this type since the setting-up of the CIAF. Furthermore, it should be pointed out that **this document is in no way representative of the railway accident rate in our country**.

This document has been drawn up in accordance with the provisions laid down in the applicable regulation, namely, **Royal Decree 623/2014 of 18 July on the investigation of rail accidents and incidents and the Rail Accident Investigation Commission**, which transposes the provisions of Directive 49/2004 as regards investigating accidents and incidents. Article 15.7 of this Royal Decree states that:

*‘The Commission will draw up a report before 30 September covering the investigations conducted during the* previous *year, the safety recommendations published, and the information received on the implementation status of measures adopted in accordance with the recommendations issued previously.*

*The Chairperson of the Commission will submit the yearly report, as approved by the Plenary Session, to the Ministry of Public Works for its submission, in turn, to the competent* Commissions *of the Spanish Parliament and Senate. Likewise, a copy of the report will be submitted to the authority in charge of safety and the European Railway Agency.’*

This report also contains (in section 4.2) the events that have taken place on the Public Railway Network (RFIG) in 2016 and for which, following notification to the CIAF (57), an investigation was decided (11). Furthermore, section 4.4 contains a summary (with conclusions and recommendations) of the investigations closed during the course of 2016 ( 1 from 2014 and 10 from 2015). As regards events that took place in previous years, the investigations have all been closed and are available in previous reports.

As of this annual report, and in subsequent reports, both the list of investigations started as well as those closed will refer to the corresponding calendar year: from 1 January to 31 December (2016, in this case). This is a novelty with respect to the three previous reports (2013, 2014 and 2015), in which closed investigations were listed from 30 June of the reference year to 30 June of the following year, in which the annual report was published. The aim is that subsequent reports will be both clearer and more coherent and can be drawn up and published at earlier dates, closer to the end of the year in question. A transitory effect of this change is that this 2016 Annual Report will still consider and list investigations that were closed in the first six months of 2016, but which originally appeared in the 2015 report.

Lastly, a summary is given of the recommendations issued by the CIAF in 2016 (section 7.1) and the degree to which recommendations have been complied with and implemented (section 7.2) based on information provided by the Spanish National Safety Authority (the National Railway Safety Agency – AESF).

The change of period considered also applies to recommendations: if the 2015 report contained recommendations (issued, implemented or complied with) from 30 June 2015 to 30 June 2016, the 2016 report contains recommendations (issued, implemented or complied with) from 1 January to 31 December 2016. There is, therefore, an overlap between the 2015 and 2016 reports with respect to the first six months of 2016.

## Legislation governing the work of the Rail Accident Investigation Commission

The Rail Accident Investigation Commission (CIAF) was set up in 2007 under Title III of the **Regulation on Traffic Safety for the Public Railway Network (Royal Decree 810/2007[[1]](#footnote-1)of 22 June, published in the Official Gazette of the Spanish State (BOE) No 162 of 7 July)**.

By means of this regulation, Spanish railway rules and regulations were adapted as regards railway accident investigation to the provisions of Directive 49/2004/EC[[2]](#footnote-2) (Royal Decree 810/2007 repealed and replaced the part concerning the investigation of accidents laid down in the Railway Sector Regulation – Royal Decree 2387/2004 of 30 December, Official Gazette of the Spanish State (BOE) No 315 of 31 December). The CIAF was later introduced in the Railway Sector Act in force at the time (Law 39/2003 of 17 November, Official Gazette of the Spanish State (BOE) No 276 of 18 November) by means of Additional Provision 11 and Transitional Provision 8 of Law 1/2014 of 28 February to protect part-time employees and other urgent economic and social measures.

**Royal Decree 623/2014 of 18 July on the investigation of rail accidents and incidents and the Rail Accident Investigation Commission (published in the Official Gazette of the Spanish State (BOE) No 175 of 19 July)** was also enacted in 2014. This Royal Decree builds on the provisions of the Railway Sector Act (LSF) and more accurately defines and establishes the role of the CIAF, while replacing and repealing those parts of the Safety Regulation (Royal Decree 810/2007) concerning the investigation of railway accidents (Title III and Annex V). Royal Decree 623/2014 was the regulatory basis used for the Railway Accident Investigation Commission’s work in 2016, which is the subject of this report.

The most important event as regards railway regulation in 2015, having a direct impact on the CIAF, was the coming into force on 1 October of the new **Railway Sector Act (Law 38/2015 of 29 September on the Railway Sector published in the Official Gazette of the Spanish State (BOE) No 234 of 30 September)**. The new law (repealing and replacing Law 39/2003) has an entire chapter (Chapter IV of Title V) on regulating the investigation of railway accidents and incidents. This law incorporates and consolidates the provisions laid down in previous regulations, particularly as regards the composition of the CIAF, the appointing of its members, its mandate and its independence. Since its entry into force, Law 38/2015 is, along with Royal Decree 623/2014, the basic rule governing the composition and activities of the Railway Accident Investigation Commission.

As regards 2016, the regulation that was published is wide-ranging, for the most part owing to the contributions made by the National Railway Safety Agency (AESF):

*Traffic regulations:*

* **Royal Decree 292/2016 of 15 July (BOE 16/7/2016) amending the single transitional provision of Royal Decree 664/2015 of 17 July adopting the Railway Traffic Regulation (putting back of the deadline to adapt to the Railway Traffic Regulation (RCF) maximum speed limits on railway lines and train portable signals).**
* **Order FOM/2015/2016 of 30 December (Official Gazette of the Spanish State (BOE) 19/1/2017) adopting the Official Catalogue of Railway Traffic Signals on the Public Railway Network.**

*Railway personnel regulations:*

* **Order FOM/1613/2016 of 4 October (Official Gazette of the Spanish State (BOE) 8/10/2016) amending Order FOM/2872/2010 of 5 November, which sets out the conditions for obtaining the qualifying certificates that allow railway personnel to perform their duties with respect to rail traffic safety, as well as the system of officially approved training centres and the medical examination centres of said personnel. (Concerning language requirements).**

*AESF Decisions concerning railway personnel:*

* **Decision of 23 December 2015 (Official Gazette of the Spanish State (BOE) 27/1/2016) of the National Railway Safety Agency, establishing the basic training requirements and minimum educational content of training programmes for qualifying railway personnel, to be given at approved training centres for railway personnel.**
* **Decision of 10 October 2016 (Official Gazette of the Spanish State (BOE) 7/11/2016) of the National Railway Safety Agency building on systems for request for recognition as railway personnel examiner to obtain driving licences and certificates, as well as the granting, validity, registration, modification, renewal and revoking of examiner credentials.**
* **Circular Decision 1/2016 of the National Railway Safety Agency regulating the conditions concerning the maintenance of driving personnel qualification certificates for those without any working relationship with a railway entity.**

*AESF Decisions concerning vehicles and vehicle maintenance:*

* **Decision 2/2016 of the National Railway Safety Agency concerning bodies designated to validate compliance by rolling stock with the Rolling Stock Metre Gauge Technical Specification (ETM) and the Basic Material Safety Regulation for Metre Gauge Rolling Stock (NBSM).**

*AESF recommendations:*

* **Technical Recommendation 1/2016 (Criteria to implement Railway Traffic Regulation (RCF) SMS and the TSI OPE)**
* **Technical Recommendation 2/2016 (Criteria to draw up training programmes for driving personnel)**
* **Technical Recommendation 3/2016 (Issues concerning railway personal training and their qualifications)**
* **Technical Recommendation 4/2016 (Actions related to the qualification certificates of railway personnel after events involving human error)**
* **Technical Recommendation 5/2016 (Criteria to draw up and update Maintenance Bodies (EEM) SMS by implementing the RCF and ETI OPE)**
* **Technical Recommendation 6/2016 (Qualification of the person in charge of loading operations)**

It should be emphasised that technical recommendations 3 and 4 of 2016 originated in CIAF recommendations, and more specifically in the events investigated under File 5/2015 (near miss at the La Marina station in Barcelona, recommendation 5/15.-2) and File 28/2015 (near miss at the Vicálvaro station in Madrid, recommendation 28/15-2) respectively.

## Rationales and objectives of accident and incident investigation

Pursuant to Article 4.4 of the Royal Decree on the investigation of rail accidents (RD 623/2014), the purpose of railway accident and incident investigation is to determine the reasons for them and clarify the circumstances in which they occur, to formulate, where appropriate, fitting safety recommendations to improve accident prevention and increase railway transport safety.

**This investigation does not under any circumstances seek to determine culpability or liability and is independent of any judicial investigation.**

The CIAF began its work as railway accident and incident investigation body in 2007. In accordance with the classification of events in place at that time under Spanish legislation, those accidents that involved the death of at least one person. However, based on the experience gleaned and on the new definition of accidents and incidents defined by later legislation (Royal Decree 810/2007 adopting the Safety Regulation and Royal Decree 623/2014 on the investigation of accidents), the Commission steered its philosophy towards the investigation of railway events, leaving aside those from which nothing could be learned to improve railway safety, regardless of the casualties, as is the case of many events caused by the inappropriate behaviour of third parties.

In keeping with this philosophy, and after nine years, the CIAF has tended to focus its investigations on only a few cases, namely those that are capable of revealing lessons that will aid in safety improvements for the sector. This has also been the case for the 2016 period and, consequently, **the accident and casualty rate in this report cannot be considered as representative of the Spanish railway system, as they merely reflect a series of selected cases**.

The investigation of the relevant railway events (serious accident, accident and incident) gives rise to the production of a technical report which contains data relating to the event, the inquiries undertaken, the conclusions and, where appropriate, the recommendations made.

## CIAF Activities

### Plenary Meetings

In 2016, the CIAF held eleven Plenary Meetings: one per month, except for August.

At these meetings, the chairperson, on listening to the opinions of the members, decides which events are to be investigated from among those CIAF is notified about (or which become known through other avenues) in the period that has elapsed since the last meeting. Serious events are excluded, the investigation of which is mandatory.

In addition, the technical reports drawn up by the investigators of the investigated events are submitted to the Plenary Meeting for approval and, where appropriate, relevant safety recommendations are made to take measures to avoid a repeat of the event. After its approval, the final report is sent to the parties concerned, in addition to being made public.

Moreover, at these sessions it is also decided if preparation of what is known as a ‘preliminary examination’ is necessary, this being a document drafted by the CIAF secretariat to serve as a basis for ascertaining whether or not an event is to be investigated. In 2016, no preliminary examination was deemed necessary.

The Plenary Meeting passes **decisions** – approving the final reports – and gives **orders** - either reflecting the decision to investigate an event, or raising issues relating to railway safety aimed at stakeholders in the sector (infrastructure managers, railway companies, the national safety authority, other bodies, etc.).

In 2016, the Plenary Meeting issued **56 orders** and **11 decisions**. All of the orders this year referred to the decision to investigate, or not, the events submitted for consideration. As far as the decisions are concerned, all of them correspond to the approval of the final reports on the events investigated (10 events dated from 2015 and one from 2014).

### Attendance at meetings of the European Railway Agency (ERA)

The Commission forms part of the National Investigation Bodies (NIBs) network of EU Member States attached to the European Railway Agency (ERA), which was renamed pursuant to Regulation (EU) 2016/796 as the European Union Agency for Railways(EUAR). This NIB network meets periodically (generally three times a year) at the Agency’s offices in the French cities of Lille and Valenciennes and exceptionally in other places around Europe. As a member of this group, the CIAF attends all ordinary meetings that it holds and occasionally other additional meetings or working groups that the network considers appropriate to arrange.

The NIB network seeks to standardise the investigation of railway accidents and incidents to improve the exchange of information and interchange experience between European countries. It also serves as a forum for sharing information and good practices between the European Investigation Bodies. Furthermore, it guides its members in the application of the criteria laid down by Railway Safety Directives.

The CIAF attended the three NIB network meetings held in 2016: the 30th, which took place in Lille over 1 and 2 March; the 31st, also held in Lille on 9 June; and the 32nd, held in London on 17 November.

In 2016, CIAF personnel took part in a course on investigating railway Safety Management Systems organised by ERA and the Portugal NIB. The course was given in Lisbon from 18 to 20 May.

### Other considerations relating to European bodies and the accident at Santiago on 24 July 2013 (File 54/2013).

In September 2013, the European Commission opened an infringement proceeding against Spain on considering Spanish legislation (Royal Decree 810/2007) not to be fully in keeping with the Safety Directive. Amendments to Spanish legislation and changes in the organisation of the CIAF led to the closure of the infringement proceeding in May 2016.

Moreover, in October and November 2015 the European Commission asked for an opinion from the European Railway Agency (ERA) as regards the independence of the CIAF and the weaknesses of the final report on the Santiago accident that took place on 24 July 2013.

The ERA drafted its report in January 2016, the content of which was made known to the CIAF in March 2016. The aforementioned report was the subject of a reply from the CIAF, which in April 2016 drafted its submission report that was passed on to the ERA.

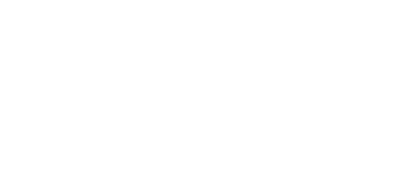
# ORGANISATION OF THE RAIL ACCIDENT INVESTIGATION COMMISSION

The CIAF, set up on 11 December 2007, is a specialised collegiate body attached to the Ministry of Public Works through its Under-Secretariat and comprises of the Chairperson, the Plenary Meeting and the Secretariat.

The Plenary Meeting, in turn, comprises of the chairperson and five members (one of whom acts as deputy chairperson), and the secretary, who has a say but no vote (composition pursuant to Royal Decree 623/2014, ratified by Law 38/2015).

The Commission has several technical investigators at its disposal who are attached to the Secretariat and who are in charge of conducting the investigations and drafting the reports that are submitted to the Plenary Session for approval.

The internal structure of the CIAF was reorganised in 2016. Theretofore, it was supported by a territorial structure of technicians (permanently available albeit not exclusively dedicated to such tasks), spread nationwide and provided by the public consultancy body Ineco, with which a commissioning agreement was in place. This commission was in place until April 2016.



**CHAIRPERSON**

**PLENARY MEETING**

**Composed of the Chairperson, the Secretary and five members (one acting as Deputy Chairperson)**

✓ **MEMBER – EXPERT ON RAILWAY INFRASTRUCTURE**

✓ **MEMBER – EXPERT ON RAILWAY ROLLING STOCK**

✓ **MEMBER – EXPERT ON RAILWAY SIGNALLING AND COMMUNICATIONS**

✓ **MEMBER – EXPERT ON RAIL SAFETY AND TRAFFIC**

✓ **MEMBER – EXPERT ON RUNNING RAILWAY SERVICES**

**SECRETARY**

**INVESTIGATORS**

**MANAGERS**

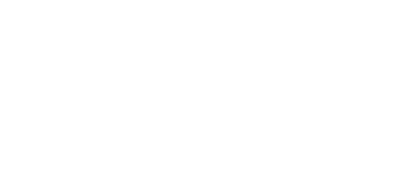
**SUPPORT**

**PERSONNEL**

**EXPERTS**

*CIAF organisation chart (as of April 2016)*

As of April 2016, the structure of the Secretariat has been changed, incorporating more civil service technical investigators and doing away with the services provided by Ineco. Accordingly, since then, CIAF has four civil servants with technical profiles, as well as its secretary, who perform investigative functions, in addition to administrative personnel. Civil service personnel attached to CIAF will be increased.



**CHAIRPERSON**

**PLENARY MEETING**

**Composed of the Chairperson, the Secretary and five members (one acting as Deputy Chairperson)**

✓ **MEMBER – EXPERT ON RAILWAY INFRASTRUCTURE**

✓ **MEMBER – EXPERT ON RAILWAY ROLLING STOCK**

✓ **MEMBER – EXPERT ON RAILWAY SIGNALLING AND COMMUNICATIONS**

✓ **MEMBER – EXPERT ON RAIL SAFETY AND TRAFFIC**

✓ **MEMBER – EXPERT ON RUNNING RAILWAY SERVICES**

**SECRETARY**

**INVESTIGATORS**

**MANAGERS**

**SUPPORT**

**PERSONNEL**

**EXPERTS**

**AREA TECHNICIANS**

**NORTH**

**SOUTH**

**NORTHWEST**

**NORTHEAST**

**WEST**

**SOUTHWEST**

**EAST**

**SOUTHEAST**

*Previous CIAF organisation chart (up to 2016)*

# APPLICABLE LEGISLATION FOR THE INVESTIGATIVE PROCESS

The Commission has a specific regulation concerning the general investigation procedure to pursue its activity. The **‘Procedure for the technical investigation of railway accidents and incidents’**, which entered into force after its definitive approval on 30 June 2015, applied to all investigations started in 2016. This procedure brings together the two that existed previously and adapted them to the new regulation established under Royal Decree 623/2014.

This procedure was only applied to two of the investigations that were closed in 2016, namely those that began after its approval. The previous procedures were used for all the other investigations: **‘Procedure for the technical investigation of railway accidents and incidents’** of October 2008 and **‘Procedure for the technical investigation of railway accidents involving people caused by rolling stock in motion’** of May 2009.

# ACCIDENT AND INCIDENT INVESTIGATION

## Classification of events

The investigations of railway accidents and incidents conducted by CIAF are based on the definitions established in **Article 3** of the **Royal Decree on** the investigation of rail accidents and incidents and **the Rail Accident Investigation Commission (RD 623/2014 of 18 July)**:

***‘Accident:*** *an unwanted or unintended sudden event or a chain of such events which have harmful consequences. Accidents are divided into the following categories: collisions, derailments, level crossing accidents, injuries to persons caused by rolling stock in motion, fires and others.’*

***‘Serious accident:*** *any collision or derailment of trains with the result of at least one fatality or five or more serious injuries, or major damage to the rolling stock, to the infrastructure or to the environment, and any other, similar accident, with an evident effect on railway safety or on safety management. Major damage is understood as damage that can be immediately assessed by the investigation body to be worth at least two million euros in total.’*

***‘Incident:*** *any event other than an accident or serious accident associated with the use and operation of trains and rolling stock and affecting traffic safety.’*

In accordance with **Article 7** of Royal Decree 623/2014, the CIAF investigates all those accidents considered to be ‘serious’, as well as those accidents or incidents which, albeit not covered by this definition, may provide lessons capable of improving railway safety. When it comes to deciding whether or not to investigate such events, the CIAF will take the following factors into consideration:

*1. The importance of the accident or incident.*

*2. Whether it forms part of a series of accidents or incidents with repercussions for the system as a whole.*

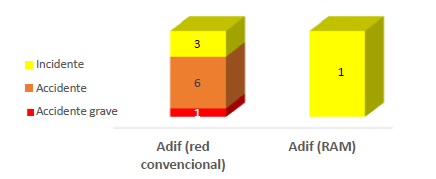
*3. Its repercussions for the safety of rail traffic.*

*4. Requests from the Rail Infrastructure Administrators, the railway companies or the safety authority.’*

## 2016 events which were subject to investigation

## Distribution by network and type

Of the 57 events notified in 2016 (1 serious accident, 44 accidents, 9 incidents and 3 suicides), it was decided to investigate 11: 10 occurred on the conventional wide gauge railway network (1 serious accident, 6 accidents and 3 incidents) and 1 incident on the metre gauge (RAM), both of which are managed by ADIF. These networks are distributed 91% and 9% respectively.



|  |  |
| --- | --- |
| Incidente | Incident |
| Accidente | Accident |
| Accidente grave | Serious accident |
| Adif (red convencional) | Adif (conventional network) |
| Adif (RAM) | Adif (RAM) |

The classification by type and network is shown in the following table and chart:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Network** | **Serious accidents** | **Accidents** | | | | **Incidents** |  | |
| **Derailment** | **Collision against an obstacle** | **Train crash** | **Derailment** | **Fire** | **Near miss** | **Total** | **Total (%)** |
| Adif (conventional network) | 1 | 1 | 2 | 2 | 1 | 3 | 10 | 91 |
| Adif (RAM) | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 9 |
| Total | 1 | 1 | 2 | 2 | 1 | 4 | 11 | 100 |
| Total (%) | 9 | 9 | 18 | 18 | 9 | 27 | 100 |  |



|  |  |
| --- | --- |
| Colisión con obstaculós | Collision against an obstacle |
| Colisión de trenes | Train crash |
| Descarrilamiento | Derailment |
| Incendio | Fire |
| Conato de colisión | Near miss |
| Adif (red convencional) | Adif (conventional network) |
| Adif (RAM) | Adif (RAM) |

Of all the events, 37% are near misses, followed by accidents caused by derailments (27%) and train crashes (18%). The remaining 18% of the events consisted of a collision against an obstacle and a fire.

## Monthly distribution

The average number of events investigated each month was 0.92. This represents a drop in the average with respect to 2015 (1.25) and 2014 (1.16), thus reversing the trend of recent years, which saw an average of at least 2 events investigated each month.



|  |  |
| --- | --- |
| Enero | January |
| Febrero | February |
| Marzo | March |
| Abril | April |
| Mayo | May |
| Junio | June |
| Julio | July |
| Agosto | August |
| Septiembre | September |
| Octubre | October |
| Noviembre | November |
| Diciembre | December |
| Colisión con obstáculo | Collision against an obstacle |
| Colisión de trenes | Train crash |
| Descarrilamiento | Derailment |
| Incendio | Fire |
| Conato de colisión | Near miss |
|  |  |

**MONTHLY DISTRIBUTION OF ACCIDENTS AND INCIDENTS INVESTIGATED**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Serious accidents** | **Accidents** | | | | **Incidents** |  |
| **MONTH** | **TYPE** | **Derailment** | **Collision against an obstacle** | **Train crash** | **Derailment** | **Fire** | **Near miss** | **Total** |
| January | |  |  |  | 1 |  | 1 |  |
| February | |  |  |  |  |  |  |  |
| March | |  | 1 |  |  |  | 1 |  |
| April | |  |  | 1 |  |  |  |  |
| May | |  |  |  |  |  | 1 |  |
| June | |  |  |  |  |  |  |  |
| July | |  |  |  |  |  | 1 |  |
| August | |  |  |  |  |  |  |  |
| September | | 1 |  |  | 1 |  |  |  |
| October | |  |  |  |  |  |  |  |
| November | |  |  | 1 |  | 1 |  |  |
| December | |  |  |  |  |  |  |  |
| Total |  | 1 | 1 | 2 | 2 | 1 | 4 | 11 |

## Accident rate of events

Of the total number of events in 2016 (accidents and incidents) that were investigated, there were 4 deaths and 13 seriously injured, all of which are related to a serious accident caused by derailment in O Porriño on 9 September 2016 (section 4.3.1).

The following table provides a distribution by network and event classification:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | **Adif (wide gauge)** | | | **Adif (RAM)** | | | **TOTAL** | | |
| **Classification** | **Type** | **Number of events** | **Fatality** | **Serious injury** | **Minor injury** | **Fatality** | **Serious injury** | **Minor injury** | **Fatality** | **Serious injury** | **Minor injury** |
| **Serious accident** | Derailment | 1 | 4 | 13 | 34 |  |  |  | 4 | 13 | 34 |
| **Total SERIOUS ACCIDENTS** | | **1** | **4** | **13** | **34** | **0** | **0** | **0** | **4** | **13** | **34** |
| **Accident** | Collision against an obstacle | 1 |  |  |  |  |  |  | 0 | 0 | 0 |
| Train crash | 2 |  |  | 5 |  |  |  | 0 | 0 | 5 |
| Derailment | 2 |  |  |  |  |  |  | 0 | 0 | 0 |
| Fire | 1 |  |  |  |  |  |  | 0 | 0 | 0 |
| **ACCIDENT total** | | **6** | **0** | **0** | **5** | **0** | **0** | **0** | **0** | **0** | **5** |
| **Incident** | Near miss | 4 |  |  |  |  |  |  | 0 | 0 | 0 |
| **INCIDENT total** | | **4** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **GRAND Total** | | **11** | **4** | **13** | **39** | **0** | **0** | **0** | **4** | **13** | **39** |

## Average time for production of reports

As will be seen below, 11 investigations were closed in 2016: 10 of which occurred in 2015 and one in 2014. The following table shows the time in months that elapsed from when the event occurred until the final report on its investigation was approved.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Accidents** | | | | **Incidents** |  |
| **TYPE**  **MONTHS** | **Collision against an obstacle** | **Derailment** | **Runaway stock** | **Fire** | **Near miss** | **Total** |
| 11 |  | 1 |  |  | 1 | 2 |
| 13 |  |  |  |  | 2 | 2 |
| 14 |  | 1 | 1 |  |  | 2 |
| 15 |  | 1 |  | 1 |  | 2 |
| 18 |  |  |  |  | 1 | 1 |
| 19 | 1 |  |  |  |  | 1 |
| 20 |  | 1 |  |  |  | 1 |
| **Total** | **1** | **4** | **1** | **1** | **4** | **11** |
| **Average** | **19** | **15** | **14** | **15** | **14** | **15** |

The average time needed to close investigations in 2016 was 15 months. Of the investigations conducted, 73% were conducted in 15 months or less.

The aforementioned restructuring of the CIAF in 2016, along with other circumstances (delays in getting tests and trials, personnel sick leave, further aspects to be dealt with in the investigation, etc.) led to delays in the investigations, despite the attempts to reduce completion times.

## Events investigated in 2016

## Preliminary examinations

To assist in decision-making, in 2010 the CIAF, in some cases, began making a preliminary analysis of the main aspects and circumstances of certain events. This analysis, known as a Preliminary Examination, is carried out for the purposes of looking into the triggering circumstances and assessing whether a formal study will bring improvements to rail safety.

These preliminary examinations are carried out by the Secretariat of the CIAF and submitted to the Plenary Meeting as a basis for making the decision on whether or not to investigate a particular event. They are not as exhaustive as the final reports of accidents and incidents that are investigated, but they give an in-depth view of the relevant aspects without making recommendations.

No preliminary examination was carried out in 2016.

## Formal investigations

The main data identified by file number are shown for each of the events investigated in 2016, together with their geographical distribution on a map.

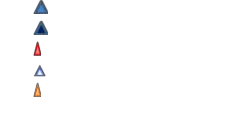
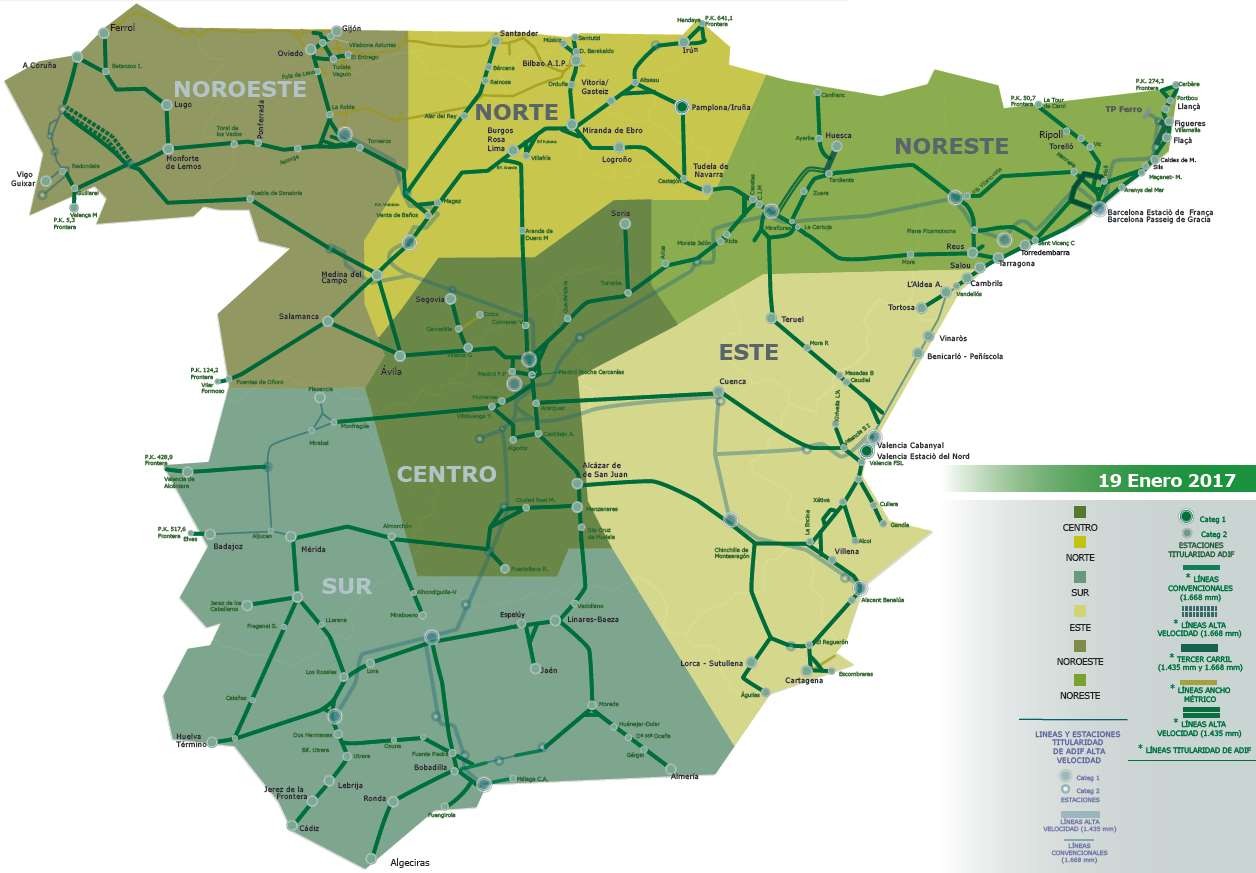
What follows is an analysis of the accidents by type.

At the close of 2016 (31 December), none of the investigations were closed regarding the events submitted.

**2016 EVENTS WHICH WERE SUBJECT TO INVESTIGATION**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FILE**  **No.** | **DATE** | **NEAREST STATION** | **MUNICIPALITY** | **PROVINCE** | **LINE** | **K.P.** | **NETWORK** | **OPERATOR** | **FATALITY** | **SERIOUS INJURY** | **MINOR INJURY** | **CLASSIFICATION** | **TYPE** | **VEHICLE/ PEDESTRIAN** | **PLACE** |
| 04/2016 | 25/01/2016 | Elx Parc | Elche / Elx | Alicante / Alacant | 336 El Reguerón- Alacant Terminal | 20.346 | ADIF | ADIF |  |  |  | INCIDENT | NEAR MISS | ENGINE - RIA DE VÍA | STATION |
| 10/2016 | 23/01/2016 | Ascó | Ascó | Tarragona | 210 Miraflores- Tarragona | 518.063 | ADIF | TRANSFESA RAIL |  |  |  | ACCIDENT | DERAILMENT | TRAIN | OPEN TRACK |
| 12/2016 | 15/03/2016 | Montroig del Camp | Montroig del Camp | Tarragona | 600 Valencia-San Vicente de Calders | 247.49 | ADIF | RENFE VIAJEROS |  |  |  | ACCIDENT | COLLISION AGAINST AN OBSTACLE | TRAIN | OPEN TRACK |
| 14/2016 | 16/03/2016 | Torrejón de Ardoz | Torrejón de Ardoz | Madrid | 200 Madrid-Barcelona | 23.000 | ADIF | ACCIONA RAIL / CONTINENTAL RAIL |  |  |  | INCIDENT | NEAR MISS | TRAIN | STATION |
| 21/2016 | 17/04/2016 | Hernani | Hernani | Guipúzcoa | 100 Madrid-Hendaya | 616.351 | ADIF | RENFE VIAJEROS / RENFE MERCANCÍAS |  |  | 5 | ACCIDENT | TRAIN CRASH | TRAIN | STATION (AGUJAS) |
| 27/2016 | 28/05/2016 | Vilanova i la Geltrú | Vilanova i la Geltrú | Barcelona | 200 Madrid-Barcelona | 635.888 | ADIF | RENFE VIAJEROS |  |  |  | INCIDENT | NEAR MISS | TRAIN | STATION |
| 36/2016 | 18/07/2016 | Boñar | Boñar | León | 790 Aranguren-Asunción Universidad | 30.642 | ADIF (RAM) | RENFE SAM  (metre gauge service) |  |  |  | INCIDENT | NEAR MISS | TRAIN | STATION |
| 41/2016 | 09/09/2016 | O Porriño | O Porriño | Pontevedra | 810 Vigo- Monforte de Lemos | 151.956 | ADIF | COMBOIOS DE PORTUGAL – RENFE VIAJEROS | 4 | 13 | 34 | SERIOUS ACCIDENT | DERAILMENT | TRAIN | STATION (AGUJAS) |
| 43/2016 | 30/09/2016 | Linares- Congostinas | Lena | Asturias | 130 Venta de Baños-Gijón | 59.700 | ADIF | RENFE VIAJEROS |  |  |  | ACCIDENT | DERAILMENT | TRAIN | PLENA VÍA (TUNNEL) |
| 51/2016 | 04/11/2016 | L’ Hospitalet de Llobregat | L’ Hospitalet de Llobregat | Barcelona | 240 San Vicente de Calders- L'Hospitalet de Llobregat | 95.200 | ADIF | RENFE VIAJEROS |  |  |  | ACCIDENT | TRAIN CRASH | TRAIN | STATION |
| 56/2016 | 04/11/2016 | Cheste | Cheste | Valencia / Valéncia | 310 Aranjuez- Valencia | 59.400 | ADIF | RENFE VIAJEROS |  |  |  | ACCIDENT | FIRE | TRAIN | STATION |

**ACCIDENTS AND INCIDENTS IN 2016**



**Collision against an obstacle (A) Train crash (A) Derailment (A) Fire (A)**

**Near miss (1)**

Map: Adif Network 2017 Declaration – state of the network to 19 January 2017

## Analysis by type of event investigated in 2016

## Serious accident

Only one serious accident occurred and was notified in 2016: the derailment of the ‘Celta’ Vigo-Porto train, operated jointly by the Portuguese company CP and Renfe Viajeros. The accident occurred at Porriño Station (Pontevedra). Four people died and there were numerous injured (thirteen of which were serious).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | DERAILMENT | 41/16 | Pontevedra | 810 Vigo- Monforte de Lemos | 151.956 |

Details of this serious accident are provided below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Administrator** | **Operator** | **Place** |
| **41/16** | 09/09/2016 | 810 Vigo- Monforte de Lemos | Adif | Comboios de Portugal | **Station** |
| **Summary:** | | | | | |
| On 9 September 2016 a Comboios de Portugal railcar on the Vigo - Oporto international journey derailed at the entry to the O Porriño Station (Pontevedra) on passing through a loop at KP 151+600 on line 810 (A Chapela - Monforte de Lemos junction line).  As a result of the derailment, the head of the trainset crashed against the abutment of an overhead pass, which destroyed the cab, with the first bogie becoming detached and causing the death of four people: the driver, the inspector and two passengers. There were also numerous injured, who were attended to by an extensive deployment of emergency services. | | | | | |

## Accident

## Collision

The CIAF was notified of ten collisions in 2016, three of which it decided to investigate: a collision against an obstacle and two train crashes.

The two train crashes occurred at stations, in one of which five people sustained minor injuries (File 21/16). The collision against an obstacle took place on open track

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | COLLISION AGAINST AN OBSTACLE | 12/16 | Tarragona | 600 Valencia-San Vicente de Calders | 247.490 |
| TRAIN CRASH | 21/16 | Gipuzkoa | 100 Madrid-Hendaya | 616.351 |
| 51/16 | Barcelona | 220 Lleida Pirineus- L'Hospitalet de Llobregat | 95.601 |

A summary of the three accidents, containing their basic details, is given below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | | **Line** | **Administrator** | | **Operator** | **Place** |
| **12/16** | | 15/03/2016 | 600 Valencia-San Vicente de Calders | Adif | | Renfe Viajeros | **Track** |
| **Summary:** | | | | | | | |
| On 15 March 2016, a long-distance Renfe Viajeros train collided with an obstacle situated on the track centre, consisting of earth and a large rock, which had come from the crumbling of a trench beside the track. The aforementioned crumbling had been caused by heavy rain in the area in the days prior to the accident.  The collision took place at KP 247+490 on line 600 Valencia - Sant Vicenç de Calders, along the Mont-Roig del Camp - Hospitalet de L’Infant (Tarragona) section. As a result of the collision the train derailed on its first axle and ran on for a further 826 m before stopping. There were no deaths or injuries, though three passengers had to be treated by emergency medical services for anxiety attacks and fainting spells. | | | | |  | | |
| The front of the rail car motor and the track infrastructure (sleepers, securing elements, etc.) were damaged due to the travel of the derailed train. | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | | | **Line** | | | **Administrator** | **Operator** | | **Place** | | |
| **21/16** | | 17/04/2016 | 100 Madrid-Hendaya | | | Adif | | | Renfe Viajeros / Renfe Mercancías | | **Station** |
| **Summary:** | | | | | | | | | | | |
| On 17 April 2016, a Renfe Viajeros commuter train crashed into the last carriage of a Renfe Mercancías freight train, which was parked on track 4 at Hernani Station. The collision occurred on track 2 of KP 616+351 on line 100 Madrid-Hendaya. The tail of the parked train overran the siding’s physical clearance post, invading the side clearance of track 2. Five (5) people sustained minor injuries as a result of the crash.  Adif put the accident down to a failure in siding shunting due to accumulated rust on the rails. | | | | |  | | | | | | |
| As the track circuit did not close, the signalling system interpreted the track as clear. In the light of the occurrence, Adif proposes to review the shunting on sidings located on the general tracks of its network and is studying other measures. | | | | | | | | | | | |
| It also pointed to the possibility that the rusting of the rails has been worsened by the aggressive environment, as there are several factories nearby that may be emitting harmful chemical products into the air (at least a chemical one and a paper one). | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | | **Line** | | **Administrator** | | **Operator** | | **Place** | | |
| **51/16** | | 04/11/2016 | 220 Lleida Pirineus - L'Hospitalet de Llobregat | Adif | | | | Renfe Viajeros | | **Station** |
| **Summary:** | | | | | | | | | | |
| On 4 November 2016, Renfe Viajeros commuter train 25752 overran the E1 entry signal to L'Hospitalet de Llobregat Station, crashing laterally into another commuter train that was leaving another track. The CTC had established and immediately cancelled the route, which along with possible signalling problems, would have transmitted mistaken signals to the driver. No personal injuries were sustained.  Given the indications that there may be a design error in the signalling software and the risk that similar events might occur at other signalling stations with the same software, the CIAF carried out a preliminary analysis of the information available and has proposed several measures to AESF. | | | | | |  | | | | |

## Derailment

In 2016, CIAF was notified of a total of nine derailment accidents (besides the serious accident mentioned in section 4.3.1). It was decided to investigate two of these. One of them took place passing through a station (10/16) and another on the open track (43/16). No personal injuries of any importance were sustained.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | DERAILMENT | 10/16 | Tarragona | 210 Miraflores- Tarragona | 518.063 |
| 43/16 | Asturias | 130 Venta de Baños-Gijón | 59.700 |

A summary of each these accidents, along with basic details, is provided below.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | | **Date** | | **Line** | | | **Administrator** | | **Operator** | **Place** |
| **10/16** | | 23/01/2016 | | 210 Miraflores- Tarragona | | | Adif | Transfesa Rail | **Track** | |
| **Summary:** | | | | | | | | | | |
| AT 12:17 on 23 January 2016, the Transfesa company freight train 97534 was driving at 48 km/h along the main track at the Ascó Station, Tarragona (KP 518+063 on line 210 Tarragona- Miraflores). At departure signal S1 (Zaragoza side) the first axle of carriage No 18 of the trainset derailed. The train continued on its way. Thirty (30) seconds later the driver, on realising what happened, applied the brake. | | | | |  | | | | | |
| After travelling some 280 m, the train came to a halt and was split into two parts: one with the locomotive and the first 13 carriages and another, 120 m behind, with the remaining 9 carriages, the first three of which had derailed.  Serious damage was caused to the rail carriages and infrastructure but no personal injuries were sustained. | | | | | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | | **Administrator** | **Operator** | **Place** |
| **43/16** | 30/09/2016 | 130 Venta de Baños-Gijón | | Adif | Renfe Viajeros | **Track** |
| **Summary:** | | | | | | |
| On 30 September 2016, a Renfe Viajeros long-distance train derailed at the northern exit of the Pajares tunnel (KP 59+507 on line 130 Gijón Sanz Crespo - Venta de Baños). There were no fatalities or injuries.  The derailment was apparently caused by the prior breakage of a section of track, in turn caused by the passing of a freight train in the opposite direction beforehand. | | |  | | | |

## Fire

In 2016, the CIAF was notified of an accident caused by fire, which it decided to investigate, which occurred at the Cheste Station (Valencia).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | FIRE | 56/16 | Valencia / Valéncia | 310 Aranjuez- Valencia | 59.4 |

A summary containing with basic details is provided below.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | | | **Date** | **Line** | | | **Administrator** | **Operator** | **Place** |
| **56/16** | 04/11/2016 | | | 310 Aranjuez- Valencia | | Adif | Renfe Viajeros | **Station** | |
| **Summary:** | | | | | | | | | |
| On 4 November 2016, a fire broke out in the last carriage of a commuter train between entry signal E1 and the backing signal R1 at Cheste Station (Valencia), KP 59+400 on line 310 Aranjuez-Valencia. External fire extinguishers and the intervention of the fire brigade were needed to put the fire out.  No personal injuries were sustained. | | | | |  | | | | |

## Other accidents:

The CIAF was notified of a further 27 accidents in the course of 2016 that were not covered by any of the types analysed in the previous sections and which it was decided not to investigate. Of these, 6 were accidents at a level crossing (three of which involved a road vehicle), one involved running over animals and 20 involved personal injuries sustained by rolling stock (three of which were later classified as suicides).

## Incidents

CIAF decided to investigate four of the nine incidents it was notified of in the course of 2016. The four incidents correspond to near misses caused by the unauthorised overrunning of a signal. All of them occurred at a station and none resulted in personal injury.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **IPO** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **INCIDENT** | **ADIF** | NEAR MISS | 04/16 | Alicante / Alacant | 336 El Reguerón - Alacant Terminal | 20.346 |
| 14/16 | Madrid | 200 Madrid-Barcelona | 23.000 |
| 27/16 | Barcelona | 200 Madrid-Barcelona | 635.888 |
| **ADIF (RAM)** | 36/16 | León | 790 Aranguren-Asunción Universidad | 30.642 |

A summary of each one of these incidents, along with their basic details, is provided below.

## Near miss

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | | **Date** | | **Line** | | **Administrator** | **Operator** | **Place** |
| **04/16** | | 25/01/2016 | | 336 El Reguerón - Alacant Terminal | Adif | Renfe Viajeros / Acciona Rail | **Station** | |
| **Summary:** | | | | | | | | |
| At 23:29 on 25 January 2016 the infrastructure maintenance train EM485 at Elx Parc Station (Alicante) on line 336 El Reguerón - Alacant Terminal, consisting of two track maintenance vehicles (grader and tamper) overran entry signal E1 and backing signal R1, which was indicating stop. There was a near miss with Renfe Viajeros passenger train 10171, which was parked on track 1 in the station.  No-one was injured and there was no material damage as a result of the incident. | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | | **Line** | | | **Administrator** | **Operator** | **Place** | |
| **14/16** | | 16/03/2016 | 200 Madrid-Barcelona | | Adif | | Acciona Rail / Continental Rail | **Station** |
| **Summary:** | | | | | | | | |
| On 16 March 2016, a near miss occurred between two freight trains travelling in opposite directions at Torrejón de Ardoz Station (Madrid – KP 23 on line 200 Madrid – Barcelona). The incident involved the Acciona Rail CGX89 and Continental Rail CGX44 trains.  The near miss situation arose because the first of the two trains (Acciona Rail CGX89) unduly overran departure signal S1/3 on track 3 at the station, which was indicating stop. No personal injuries were sustained. | | | |  | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | | **Line** | | **Administrator** | | **Operator** | | **Place** | |
| **27/16** | | 28/05/2016 | 200 Madrid-Barcelona | Adif | | Renfe Viajeros | | **Station** | |
| **Summary:** | | | | | | | | | |
| On 28 May 2016, a Renfe Viajeros middle-distance train overran a signal indicating danger at Vilanova i la Geltrú Station (Barcelona), at KP 636+000 on line 200 Madrid Chamartín – Barcelona França. The train was brought to a halt by the ASFA device, though the driver says the signal was green. | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | | **Line** | | | **Administrator** | **Operator** | **Place** | |
| **36/16** | | 19/07/2016 | 790 Aranguren-Asunción Universidad | | Adif (RAM) | | Renfe (FEVE) | **Station** |
| **Summary:** | | | | | | | | |
| On 19 July 2016, a Feve short-distance railcar overran a signal indicating danger at the entry to Boñar (León), at KP 30+200 on line 790 Aranguren – Asunción universidad. The train came to a halt because of a fault after running onto the main track, on which a passenger train was approaching, the brakes of which were applied and which stopped some 360 m away. | | | |  | | | | |

## Event investigations closed in 2016

The investigations of 11 events were closed in 2016: one of which occurred in 2014, while the rest dated from 2015. The basic details and analysis by type of these were provided in the 2015 and 2014 reports.

A table is given below with the main data on each one of these 11 events, ordered by file number. The table is followed by a summary of the basic details, for each event and grouped by their type, along with the conclusion reached and the recommendations made, in addition to the end party in charge of implementing them (recipient).

**EVENT INVESTIGATIONS THAT HAVE BEEN CLOSED IN 2016**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NETWORK** | **OPERATOR** | **FILE No.** | **DATE** | **NEAREST STATION** | **MUNICIPALITY** | **PROVINCE** | **LINE** | **K.P.** | **CLASSIF.** | **TYPE** | **PLACE** | **RECOMMENDATIONS** |
| ADIF | TRACCIÓN RAIL | 64/14 | 11/10/2014  11:05 | Sestao | Sestao | Bizkaia | 720 Intermodal Abando Indalecio Prieto-Santurtzi | 9.6 | ACC. | DERAILMENT | SIDING | 0 |
| ADIF | RENFE OPERADORA | 05/15 | 12/01/2015  21:14 | Barcelona Marina | Barcelona | Barcelona | 266 Glorias junction line - Vilanova junction line | 364.8 | INC. | NEAR MISS | STATION | 3 |
| ADIF | RENFE OPERADORA | 10/15 | 13/02/2015  14:36 | Barcelona França | Barcelona | Barcelona | 200 Madrid-Barcelona | 684.9 | ACC. | DERAILMENT | STATION | 2 |
| ADIF | RENFE OPERADORA | 12/15 | 04/03/2015  19:17 | Siete Picos | Cercedilla | Madrid | 116 Los Cotos - Cercedilla | 7.8 | ACC. | DERAILMENT | TRACK | 2 |
| APG  (\*) | UTE APG Rail | 15/15 | 18/03/2015  15:53 | Veriña | Gijón | Asturias | 150 Serin-Aboño |  | ACC. | RUNAWAY STOCK | STATION | 6 |
| ADIF | RENFE OPERADORA | 17/15 | 09/02/2015  9:17 | A Susana | Santiago de Compostela | A Coruña | 822 Zamora-La Coruña | 367.2 | ACC. | COLLISION AGAINST AN OBSTACLE | SIDING | 0 |
| ADIF | CONTINENTAL RAIL | 23/15 | 31/03/2015  3:37 | Medina del Campo | Medina del Campo | Valladolid | 100 Madrid-Hendaya | 206.8 | ACC. | DERAILMENT | STATION | 2 |
| ADIF | CONTINENTAL RAIL | 28/15 | 22/05/2015  21:26 | Vicálvaro | Coslada | Madrid | 930 Madrid Atocha-San Fernando de Henares | 10.8 | INC. | NEAR MISS | STATION | 2 |
| ADIF | RENFE OPERADORA | 30/15 | 10/05/2015  22:23 | Barcelona Sants | Barcelona | Barcelona | 050 Madrid Puerta de Atocha - Límite Adif-TPFerro | 620.6 | INC. | NEAR MISS | STATION | 1 |
| ADIF | RENFE OPERADORA | 39/15 | 27/08/2015  17:54 | Álora | Álora | Málaga | 430 Córdoba junction line - El Higuerón Málaga | 155.3 | INC. | INCIPIENT FIRE | STATION | 2 |
| ADIF | CONTINENTAL RAIL | 52/15 | 22/10/2015  6:36 | Río Huerva | Cerveruela | Zaragoza | 214 C.I.M. de Zaragoza-Cartuja | 16.9 | INC. | NEAR MISS | SIDING | 3 |

(\*) Gijón Port Authority

There were no personal injuries sustained in any of the events the investigation of which was closed in 2016.

## Serious accident

No investigation of any serious accident was closed in 2016.

## Accident

## Collision

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | | **Date** | | **Line** | | | **Administrator** | **Operator** | **Place** |
| **0017/15** | | 09/02/2015 | | 822 Zamora-La Coruña | | Adif | Renfe Operadora | **Siding** | |
| **Summary:** | | | | | | | | | |
| On 9 February 2015 at 08:58 hours, at the A Susana station on line 822 (Zamora- Coruña), an obstacle was struck (track 2 buffer stop), with the subsequent derailing of the manoeuvre for the formation of train 60222 of the railway company Renfe Mercancias. The manoeuvre, consisting of fourteen wagons and two locomotives started, following an order by the traffic assistant (qualified as a traffic assistant), a “pushing” movement from track 4 towards the general track (track 1), with the intention of subsequently returning on track 2. | | | | |  | | | | |
| As the manoeuvre passed over point A4, the point was in the “straight on” position, directing the consist onto the track 2 buffer stops; it was not able to stop and it struck the buffer stops, leading to the subsequent derailing of the three empty wagons at the head of the train.  There were no personal injuries as a result of striking the obstacle and the subsequent derailing, but material damages were caused to the track and carriages. | | | | | | | | | |
| **Conclusion:** | | | | | | | | | |
| The accident occurred due to a human error by the traffic assistant, who did not correctly establish the route for the manoeuvre and did not check the correct position of the point for it, before ordering the “push” movement of the manoeuvre. | | | | | | | | | |

|  |  |
| --- | --- |
| **Recipient** | **Recommendation** |
|  | No recommendations were made. |

## 

## Derailment

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | | | **Administrator** | **Operator** | **Place** |
| **0064/14** | 11/10/2014 | | 720 Intermodal Abando Indalecio Prieto-Santurtzi | | Adif | Tracción Rail | **Siding** | |
| **Summary:** | | | | | | | | |
| The events took place at 11:05 on 11 October 2014 at the Sestao siding (Desertu-Barakaldo Station), KP 9+606 on track 2 of line 720 Abando Indalecio Prieto to Santurtzi.  The Tracción Rail freight train CGX32 consisting of locomotive 333 and 18 PMMC flat cars from Bilbao Mercancías and travelling to Valencia Fuente de San Luis was driving without incident.  On passing through the Sestao siding at 11:05 and at a speed of 33 km/h, the second axle of the first bogie of the empty carriage, which was the last in the trainset, derailed at KP 9+606. | | | | | | | | |
| Some 6 m after, the first axle of the first bogie derailed, albeit continuing to run. Some 47 m later the first axle of the second bogie of the same carriage derailed.  The train continued running with the last carriage derailed and increasing speed up to 53 km/h, when going through Desertu-Barakaldo Station (KP 8+356) at 11:06. The traffic manager at this station building noticed that the train carriage was running derailed and duly reported to the Bilbao control centre. | | | |  | | | | |
| The Bilbao control centre informed the driver of train CGX32 and ordered him to stop immediately. The train came to a halt at 11:09 at KP 6+126 (locomotive), overrunning the balise before the E2 entry signal to Zorrotza Station by 24 m.  The last carriage of the train ran derailed over a distance of 3,006 m until coming to a halt at the entry to Zorrotza Station. In the course of these three (3) kilometres the carriage damaged balises, crossings, sidings and sleepers and even lost the two axles of the second bogie, which ended up on the track at kilometre points KP 7+075 and 7+052.  There were no fatalities or injuries as a result of the derailment, although there was material damage to installations and the rolling stock. | | | | | | | | |
| **Conclusion:** | | | | | | | | |
| The most likely hypothesis as regards the root cause of the derailment was the combination of different factors which, of themselves, could not be considered as the “root cause” per se, but owing to the synergic effect of the same on vehicle dynamics may have caused the derailment. | | | | | | | | |

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| **Recipient** | **Recommendation** |
|  | No recommendations were made. |

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| **File** | | **Date** | | **Line** | | | **Administrator** | | **Operator** | | **Place** |
| **0010/15** | 13/02/2015 | | 200 Madrid-Barcelona | | | Adif | | Renfe Operadora | | **Station** | |
| **Summary:** | | | | | | | | | | | |
| At 14:36 on 13 February 2015, Renfe Viajeros passenger train 1112 from Valencia Joaquín Sorolla travelling to Barcelona Estació de França, was about to make the last passenger stop on the route after having travelled without incident. The entry route to track 3 of the aforementioned station was established by the control centre. | | | | | | | | | | | |
| The train was running at a speed of 24 km/h. On taking the right-hand bend in the direction the train was travelling, the right wheel of the first head axle derailed. The wheel was left hanging without entering into contact with the ballast, with its inner face rubbing against the right-hand rail, whereas the left-hand wheel continued on the running surface of the left-hand rail, with its flange leaning on the inner face of that rail. The train continued to advance in this situation for 256 metres, until it stopped before the buffer on track 3. | | | | |  | | | | | | |
| The friction of the two wheels with the tracks caused a loud noise that was heard by service personnel at the station. The driver was informed of these circumstances who checked the trainset, discovering that the right wheel of the first axle had derailed.  There were no fatalities or injuries as a result of the accident. | | | | | | | | | | | |
| **Conclusion:** | | | | | | | | | | | |
| The accident was due to the technical failure of the rail track infrastructure in the area of the accident, mainly due to the excess width of the track gauge and deficiencies in the track fastenings. | | | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Adif | **10/15-1** Review and/or complete general procedure PG-104-003-003 “Non-Conformities, Corrective, Preventative and Improvement Actions” detailing and specifying the non-conformities detected in the inspection and monitoring of the infrastructure by maintenance personnel in order to improve the operation of that procedure and ensure compliance therewith. |
| Adif | **10/15-2** Once the PG-104-003-003 “Non-Conformities, Corrective, Preventative and Improvement Actions” general procedure has been reviewed and/or complemented in compliance with the provisions of Recommendation 10/15-1, verify that the system is operational and guarantee that it is known by the relevant personnel. |

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| **File** | **Date** | **Line** | | **Administrator** | | **Operator** | | | **Place** |
| **0012/15** | 04/03/2015 | 116 Los Cotos - Cercedilla | Adif | | | | Renfe Operadora | **Track** | |
| **Summary:** | | | | | | | | | |
| At 19:17 on 4 March 2015 the Renfe Viajeros commuter train 35188, composed of two vehicles (self-propelled series 442), derailed. The derailment occurred on line 116 Los Cotos - Cercedilla, a metre gauge line that runs through the Madrid mountains, between Puerto de Navacerrada Station and the Collado Albo railway stop.  The train was running without incident from Los Cotos to Cercedilla when, on passing by KP 7+855, on a bend to the right in the direction the train was travelling, the two wheels of the last axle of the trainset derailed, falling to the left. The train continued running, with the right wheel remaining within the track centre and the left on the outside of the left track, with the axle sliding on top of the left track. | | | | |  | | | | |
| It continued running under these circumstances for 365 m. On arriving at KP 7+490, having passed by the Collado Albo railway stop, on taking the bend to the left, the first axle of the last bogie of the trainset derailed, with the right wheel falling to inside the track centre and the left wheel to the outer part of the track. The train stopped at KP 7+455, after its last bogie had run derailed for 45 m, striking several milestones and two utility poles. On coming to a halt, the first carriage was derailed and the second one half-turned over leaning against a third utility pole.  There were no fatalities or injuries, but there was material damage to installations and the train. | | | | | | | | | |
| **Conclusion:** | | | | | | | | | |
| The accident was the result of a technical fault in the infrastructure. The wooden sleepers and the fixing clamps were in a bad state of repair, causing track gauge widening as the train passed. | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Adif | | **12/15-1** It is insisted that CIAF Recommendation 32/11-1 be applied: ‘*Analyse the viability of replacing the entire wooden sleeper section with concrete sleepers, or alternatively replace those that are in bad condition with new ones of the same material’,* implementing the ‘Project for the replacement of wooden sleepers with concrete sleepers on a 4-kilometre stretch of track’ |
| Adif | | **12/15-2** Comply with the established frequency and quality of on-site visits for the line and reconsider the traffic conditions of the line in light of the control sheets and any issues identified, ensuring these are resolved. |

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| **File** | **Date** | | **Line** | | **Administrator** | **Operator** | **Place** | |
| **0023/15** | | 31/03/2015 | 100 Madrid-Hendaya | | Adif | Continental Rail | **Station** |
| **Summary:** | | | | | | | |
| The events in question occurred on 31 March 2015 at 03:37 at Medina del Campo station on line 100, Madrid – Hendaya, in the province of Valladolid.  Freight train number 98610 belonging to the rail freight company Continental Rail, travelling from Bilbao Mercancías to Abroñigal (Madrid) consisted of locomotive No. 957103350261 and 15 container carrier flat cars (PMMC), with those occupying positions 1, 14 and 15 being empty and numbers 2 to 13 being loaded, with a length of 446 metres and weighing 1,012 metric tonnes. | | | |  | | | |
| Between Pozaldez and Medina del Campo stations, train 98610 was running without incident along track I. At 03:32:37 the rail traffic manager established the passage route for the train using track 5 of the station (which corresponds to main line track I) towards track 4 (which corresponds to main line track II) by way of points 8 and 14, with the E'8 advance signal set at caution, the E8 entry signal set at caution, and both the interior S2/4 and S2/4A departure signals set at track clear.  The train passed at 03:36:42 along point 8 (KP 206+881) at a speed of 29 km/h; at 03:36:48 at KP 206+831 (point zero), the derailing began at the 2nd bogie of the second carriage of the trainset. The 1st and 3rd bogies of the second carriage then derailed, followed by the 3rd bogie of the first carriage and all three bogies of the third car.  At 03:36:52, it passed though point 14 (KP 206+809) at 26 km/h and through point 20 at 03:37:02 at a speed of 25 km/h.  Finally, at 03:37:47, the train came to a stop at KP 206+456 after having travelled 375 metres beyond point zero.  No-one was injured as a result of the derailment, but material damage was incurred. | | | | | | | |
| **Conclusion:** | | | | | | | |
| The accident was caused by the failure of the infrastructure within the area it occurred and, more specifically, by the existence of out-of-tolerance warping of the track. | | | | | | | |

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| **Recipient** | **Recommendation** |
| Adif | **23/15-1** Modify the specific procedure ADIF-PE-301-001-VÍA-03 ‘Inspection of the infrastructure and track’ in order to include checks on the geometry of crossovers. |
| Adif | **23/15-2** Prepare an inspection plan for the geometry of crossovers located on main lines. In the event of safety deficiencies, act to re-establish conditions for safe travel. |

## Runaway stock

The investigation of an accident caused by runaway rolling stock was closed in 2016. Even though, strictly speaking, it should be classified as a collision (against obstacles, on striking a buffer stop), the unique circumstances of the incident merit particular attention.

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| **File** | | | **Date** | **Line** | | | **Administrator** | | **Operator** | | **Place** | |
| **0015/15** | 18/03/2015 | | | 150 Serin-Aboño | | | Port Authority of Gijón (APG) | | UTE APG Rail | | **Station** |
| **Summary:** | | | | | | | | | | | |
| On 18 March 2015, a UTE APG Rail locomotive U19B05 was parked on track 13 at Aboño Station (a Port Authority of Gijón facility). The aforementioned locomotive had to move to track 15 to undertake a manoeuvre with 2 carriages parked there.  At 15:30, the traffic manager for the afternoon shift began the process to start up the locomotive. That person was in the cab when a traffic assistant came up to ask for information on the carriages that had to be moved. The traffic manager answered that the said information was in the traffic office, thus he decided to leave the locomotive and go there, accompanied by the traffic assistant. | | | | |  | | | | | | |
| As they were leaving, the traffic manager noticed that the locomotive was moving along track 13 at low speed in the direction of Veriña Station, which belongs to Adif.  The traffic manager immediately notified the Adif control centre in Oviedo report on the event. Staff there informed him that the general track was protected because the routes were set towards the buffer stop of a dead end siding at Veriñá Station.  The locomotive continued along the track overrunning signals 7SA, 5S and 1S/7 and striking the aforementioned buffer stop, while two of its bogies derailed. It freewheeled for a distance of 1,200 m at an average speed of 22 km/h.  There were no fatalities or injuries as a result of the accident. | | | | | | | | | | | |
| **Conclusion:** | | | | | | | | | | | |
| The accident occurred due to a human error by the operator of the shunting vehicles (who is also the afternoon shift traffic manager), who put the locomotive in running mode and left the driver’s cab without taking the safety measures required to prevent the locomotive freewheeling.  The fact that the dead man’s device was disabled and the parking brake was not working properly are noted as contributing causes. | | | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Port Authority of Gijón (APG) | **15/15-1** The AESF should require the APG to draw up a Safety Management System, according to the provisions set out in the third additional provision of RD 810/2007, approving the Regulation on Traffic Safety for the Public Railway Network. |
| Port Authority of Gijón (APG) | **15/15-2** Analyse the viability of implementing measures to prevent uncontrolled movements of rolling stock (freewheeling) from the Port of Gijón reaching the point where this port is physically connected to Adif’s facilities. |
| Port Authority of Gijón (APG) | **15/15-3** Check compliance with the maintenance plan for rolling stock running within its facilities. |
| UTE APG  Rail | **15/15-4** In accordance with the Adif-APG agreement, ensure the traffic managers who operate the connection between the port and the Public Railway Network (RFIG) administered by Adif are duly qualified. |
| UTE APG  Rail | **15/15-5** Ensure compliance with maintenance work cycles on its rolling stock. |
| Port Authority of Gijón (APG) | **15/15-6** Periodic verifications by management staff at UTE AGP Rail companies that ‘Dead Man’s’ devices fitted to its rolling stock are not disabled. |

## Incidents

## Near miss

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| **File** | **Date** | **Line** | | | **Administrator** | | | **Operator** | | **Place** |
| **0005/15** | 12/01/2015 | | 266 Glorias junction line - Vilanova junction line | | | Adif | Renfe Operadora | | **Station** | |
| **Summary:** | | | | | | | | | | |
| At 21:14 on 12 January 2015, the traffic manager at Barcelona Marina Station (line 220 Lleida Pirineus –L’Hospitalet de Llobregat) had established a direct through route along track II for Renfe Viajeros commuter train 25386 from Ripoll to L’Hospitalet de Llobregat.  Another commuter train, No 25780, belonging to the same company, and coming from Arenys de Mar and travelling to L’Hospitalet de Llobregat had its route established up to signal 3646 Glorias junction line (line 266 Glorias junction line – Vilanova junction line), which was indicating stop and with the previous signal 1094 indicating caution. | | | |  | | | | | | |
| Lines 266 Glorias junction line – Vilanova junction line and 220 Lleida Pirineus –L’Hospitalet de Llobregat meet at Vilanova junction line (switch point B3), accordingly, signal 3646 on line 266 is the last one that protects access to switch point B3.  On reaching signal 3646, which was indicating stop, train 25780 unduly overran it and came to a halt subsequently on the kicking-in of the on-board ASFA system that acted on the emergency brake. After it came to a halt, approximately 30 m from the overrun signal, the driver reset the system and began driving again at low speed for 200 m, approaching switch point B3.  Meanwhile, train 25386 that was running on track II of line 220, passed through signal 3648 which was indicating caution (yellow). Signal 3648 is located on line 220 and is the last one that protects access to switch point B3, of Vilanova junction line.  At that time, both trains were heading for switch point B3, thus giving rise to a near miss. The driver of train 25386, on noticing the presence of the other train, stops and contacts the control centre.  The driver of train 25780, on approaching the switch point B3 (switch point that was locked in the normal position for the 25386 train route), also stopped without overrunning the clearance post and contacted the control centre.  No property damage or personal injuries were sustained as a result of the incident. | | | | | | | | | | |
| **Conclusion:** | | | | | | | | | | |
| The incident occurred due to human error by the personnel driving train 25780, more specifically due to a lack of attention, leading to stop signal 3646 being overrun. | | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Adif | **05/15-1** Study the possibility of changing the position of signal 3646 to improve its visibility and, where applicable, fit a prior balise. |
| National Railway Safety Authority (AESF) | **05/15-2** Require railway companies and infrastructure managers to include a procedure in their safety management systems (SMS) that makes it possible to trace training initiatives, especially those of a practical nature. |
| This procedure must specify the activity models to be established by the different managers for each of the training activities. |
| National Railway Safety Authority (AESF) | **05/15-3** Specify a maximum period for railway companies and infrastructure managers to incorporate the provisions contained in the AESF Decision of 23 December 2015 (Official Gazette of the Spanish State (BOE) of 27 January 2016), into their safety management systems (SMS), and for these to be fully operational. |

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| **File** | **Date** | | **Line** | **Administrator** | | | **Operator** | | **Place** |
| **0028/15** | | 22/05/2015 | 930 Madrid Atocha-San Fernando de Henares | | Adif | | | Continental Rail | **Station** |
| **Summary:** | | | | | | | | | |
| At 21:26 on 22 May 2015, the Continental Rail light locomotive VK153 with destination Madrid Santa Catalina, started out from the Vicálvaro Clasificación Station (commuter line 930 Madrid Atocha to San Fernando de Henares). After passing through the departure signal indicating caution, it stopped at 21:21:01 before the entry signal B101 to track 3 at Vicálvaro Station, indicating stop. | | | | | | | | | |
| At the aforementioned time, Tracción Rail train 97131 with destination La Salud (Seville), was at entry signal B103 to track 3 at Vicálvaro Station, which was indicating clear.  At 21:24:34 train 97131 had overrun departure signal B107-3 at the station and light locomotive VK153 continued to be at the entry signal B101, indicating caution and with route to track 3 of the Vicálvaro Station. | | | | | |  | | | |
| At 21:25:05 the light locomotive VK153, stationary at signal B101, started to move and at 21:25:34 passed over the balise at the foot of the said signal. As it was running along track 3 at Vicálvaro Station, at 21:26:45, on passing through the balise prior to departure signal B107-3 the emergency brake was activated, as this signal was indicating stop.  Immediately after, at 21:26:56, light locomotive VK153 passed through the balise at the foot of signal B107-3, occupying the track circuit between signals B107-3 and R2. At the said time, train 97131 was occupying the track circuit adjacent to the aforementioned one, between signals R2 and 93. There was a near miss. | | | | | | | | | |
| **Conclusion:** | | | | | | | | | |
| The incident occurred due to human error by the personnel driving the light locomotive VK1053, more specifically due to a lack of attention, leading to departure signal B107-3, which was indicating stop, being overrun, and the consequential failure to comply with regulations.  As a contributing cause, it is noted that the driver did not take into account the difference in acceleration between a light locomotive and a loaded goods train. | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Continental Rail | **28/15-1** Refresher training courses for drivers should go over the different acceleration and braking behaviours of rolling stock under the various conditions in which they might operate. |
| Continental Rail | **28/15-2** A procedure should be drafted and included in the Continental Rail Safety Management System (SMS), setting out general criteria for suspending, revoking and recovering qualifications following a human error, depending on its severity. |

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| **File** | | **Date** | | **Line** | | **Administrator** | **Operator** | | **Place** |
| **0030/15** | 10/05/2015 | | 050 Madrid Puerta de Atocha - Límite Adif-TPFerro | | | Adif | Renfe Operadora | **Station** | |
| **Summary:** | | | | | | | | | |
| The events took place at 22:23 on 10 May 2015 at Barcelona Sants on line 050 Madrid Puerta de Atocha to Límite Adif TP-Ferro.  Train 39766 (empty coaching stock) pertaining to the railway company RENFE Viajeros originating at Barcelona Sants and destined for the high speed maintenance base at Barcelona Can Tunis unduly overran the departure signal (S BSN M3) on track 3, where it was parked, causing the emergency brakes through the ERTMS system and subsequently coming to a stop. | | | | |  | | | | |
| The CRC manager at Zaragoza had established the departure route on track 4 for train 38888 (empty coaching stock), the destination of which was Can Tunis. Moreover, train 39766 (empty coaching stock) [the train which overran the departure signal] was parked on track 3. The CRC manager at Zaragoza proceeded to arrange to send both trains destined for the base at Can Tunis, with 38888 departing first and then train 39766 ‘a distance away’. At the same time, the CRC manager had established the entry itinerary for train 00537 on track 1.  The departure signal on track 4 was opened (S BSN M4) for 38888 (empty coaching stock). Given that the departure signal for track 4 and the departure signal for track 3 (S BSN M3) are located at the end of the platform shared by both tracks, from the waiting position of train 39766 on track 3, the train driver confused (according to his statement) the track 4 departure signal for that of the track 3 departure signal where he was parked, and started to move.  At that time train 00537 was entering on track 1.  Train 39766 (empty coaching stock) running at 21 km/h passed the balise on departure signal S BSN M3 thus giving rise to the kicking in of the ERTMS automatic brake (train TRIP), running on 46 m until coming to a standstill and occupying the circuit of track V S22 BSN N2.  Train 00537 had entered onto track 1 and parked there.  After the overrunning of signal S BSN M3 indicating stop for train 39766 (empty coaching stock) there was a near miss with train 00537 which was entering onto track 1.  There were no injuries or material damages caused by the incident. | | | | | | | | | |

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| **Conclusion** |
| The incident was caused by human error from the driver of train 39766 (empty coaching stock) who mistook the departure signal for track 3 with that of track 4, thereby causing the overrunning of the S BSN M3 signal that was indicating stop, and causing a near miss with train 00537 that was entering track 1. |

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| **Recipient** | **Recommendation** |
| Adif | **30/15-1** As a definitive solution, analyse the feasibility of relocating departure signal(s) S BSN M3 (and B BSN M4) at Barcelona-Sants station to another place to reduce the risk of confusion by drivers. |

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| **File** | | **Date** | | **Line** | | **Administrator** | | **Operator** | **Place** | |
| **0052/15** | 22/10/2015 | | 214 C.I.M. de Zaragoza-Cartuja | | | | Adif | Continental Rail | **Siding** |
| **Summary:** | | | | | | | | | |
| The events occurred on 22 October 2015 at 06:34 at Río Huerva station, on line 214 La Cartuja to CIM (Zaragoza), Zaragoza Province.  Freight train 99563, belonging to the railway company Continental Rail, and train BAR70 owned by the railway company Transfesa Rail, were running under normal conditions and in opposite directions, on a single track, towards Río Huerva station. | | | | |  | | | | |
| To allow the two trains to pass, the CTC ordered train BAR70 to stop at entry signal E2 (Madrid side/CIM Zaragoza) at Río Huerva station, and established an entry route to signal S1/3 for train 99563 (Barcelona side/La Cartuja).  Accordingly, train BAR70 passed the Río Huerva E´2 approach signal indicating caution, and stopped before arriving at signal E2, as this signal was indicating stop.  For its part, and running in the opposite direction, train 99563 proceeded towards the aforementioned station against approach signal E´1 signalling caution and the E1 entry signal signalling caution. After passing through access switch point 1 to track 3 and running along that track, the driver did not notice the stop signal from the next signal S1/3 in time, and even though he used the emergency brake he cut through the signal's warning light, thus activating the automatic warning system, ASFA, and triggering the emergency braking system. This produced a near-miss with train BAR70, which remained at a standstill at signal E2.  Train 99563 came to a halt 47m after passing the aforementioned signal, without activating switch point 2 affording access to the main track. The driver of train 99563 reported what had happened to the CTC, which authorised the train to reverse to release the switch point circuit and come to a halt on track 3.  No material damage or personal injuries were sustained. | | | | | | | | | |
| **Conclusion:** | | | | | | | | | |
| The incident occurred due to human error by the driving staff of freight train 99563, more specifically due to a lack of attention, leading to departure signal S1/3, which was indicating stop, being overrun, and the consequential failure to comply with regulations.  The driver's lack of experience is noted as a contributing cause, as he had not previously driven on the Río Huerva siding. The existence of possible fatigue can also be pointed to, as the driver had been working for 10 hours and 34 minutes at the time the signal was overrun, and driving for 8 hours and 14 minutes. | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Continental Rail | **52/15-1** A procedure should be drawn up as part of Continental Rail’s SMS to establish the measures necessary to check compliance with driver working hours based on planned train services and, in the event of a worsening situation, to adjust driving times and to prevent non-compliance with established hours. |
| Continental Rail | **52/15-2** Incorporate Technical Recommendations 7/2014 from the Directorate-General of Railways on procedures to control maximum driving times, into the Continental Rail SMS. |
| Continental Rail | **52/15-3** The recommendation of CIAF 28/15-2 is reiterated: a procedure should be drafted and included in the Continental Rail Safety Management System (SMS), setting out general criteria for suspending, revoking and recovering qualifications following a human error, depending on its severity. |

## Incipient fire

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| **File** | **Date** | **Line** | | | | **Administrator** | **Operator** | | **Place** |
| **0039/15** | 27/08/2015 | | 430 Córdoba junction line - El Higuerón Málaga | | Adif | | Renfe Operadora | **Station** | |
| **Summary:** | | | | | | | | | |
| The events took place at 18:23 on 27 August 2015, at Álora station on the 430 junction line, Córdoba El Higuerón – Los Prados, in Málaga province.  Middle-distance passenger train 13061, belonging to the railway operator Renfe Viajeros, was travelling normally after it left Ronda station and until it stopped on track 3 of Bobadilla station, with the driver operating the train from cab M2. | | | |  | | | | | |
| To continue on to its destination station, Málaga María Zambrano, the driver changed cabs and operated the train from cab M1. After getting on the move again then as train 13060, on passing through the foot balise at the departure signal, the emergency brake was activated by the ASFA system. Subsequently, the control centre authorised the disconnection of the ASFA in cab M1 of train 13060 and ordered it to continue on its journey with the train driver accompanied by the inspector in the cab.  On its arrival at Álora Station, the train stopped on track 5, during which time the driver was alerted to the presence of the smoke at the bogie of the first part of the trainset by the inspector.  An attempt was made to put out the existent incipient fire at the axlebox on the right of the first axle of the vehicle with the train's fire extinguisher and the driver called in the fire brigade. | | | | | | | | | |
| **Conclusion:** | | | | | | | | | |
| The incident was caused by a technical fault in the rolling stock, specifically the overheating of the grease box of the first axle on the right side, in the direction of travel. The cause of the fault is impossible to determine. | | | | | | | | | |

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| **Recipient** | **Recommendation** |
| Renfe Operadora | **39/15-1** Should water be detected inside an axlebox during one of the IM2, IM3 or IM4 maintenance operations carried out on 599 vehicles, a change of axle will be scheduled. Until this change is made, it will be subject to a follow-up and inspection procedure during all preventive maintenance operations. |
| Renfe Operadora | **39/15-2** On changing an axle of a 599 vehicle, it will be checked that the kilometres travelled since the last complete servicing of the axle and its bearings are less than or equal to those of the train it is mounted on, as of the last R1 or R2 performed on it. |

# CAUSES OF INVESTIGATED EVENTS

The following table contains the direct cause of the different types of events the investigation of which was closed in the course of 2016. One event occurred in 2014 and 10 in 2015. The data are broken down by classification of the event, rail network and type for each event. Casualties are also included (fatalities, serious injuries and minor injuries).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ATTRIBUTED CAUSE | CLASSIFICATION | NETWORK | NETWORK | CAUSE | TOTAL EVENTS | CASUALTIES | | |
| FATALITIES | SERIOUS INJURIES | MINOR INJURIES |
| **RAILWAY** | **ACCIDENT** | **ADIF** | Collision (obstacle) | HUMAN ERROR: lack of attention and breach of rule (17/15) | **1** | **0** | **0** | **0** |
| Derailment | INFRASTRUCTURE DEFICIENCY: excess gauge due to poor condition of securing elements and sleepers (23/15, 10/15, 12/15) | **3** | **0** | **0** | **0** |
| **AP**  **Gijón** | Runaway stock | HUMAN ERROR: lack of attention and breach of rule (15/15) | **1** | **0** | **0** | **0** |
| **INCIDENT** | **ADIF** | Near miss | HUMAN ERROR: lack of attention (5/15) | **1** | **0** | **0** | **0** |
| HUMAN ERROR: lack of attention along with inexperience and possible fatigue (52/15) | **1** | **0** | **0** | **0** |
| HUMAN ERROR: lack of attention and error of perception of rolling material acceleration (28/15) | **1** | **0** | **0** | **0** |
| HUMAN ERROR: error of perception of the signal (30/15) | **1** | **0** | **0** | **0** |
| Incipient fire | MATERIAL FAULT: overheating of axlebox (39/15) | **1** | **0** | **0** | **0** |
| **RAILWAY TOTAL** | |  |  |  | **11** | **0** |  | **0** |
| **GRAND TOTAL** | |  |  |  | **11** | **0** |  | **0** |

The railway system is accountable for the cause of all the events the investigations of which were closed in 2016 (both accidents and incidents).

So, the direct cause with the highest incidence was human error which was present in 55% of cases, infrastructure deficiency was responsible in 27%, and rolling stock failure in 9%, with the remaining 9% being due to a combination of infrastructure and rolling stock failure.

It should be pointed out that this analysis only corresponds to those **events that CIAF decided to investigate at the time**. Accordingly, **in no case whatsoever can this be considered as representative of the Spanish Public Railway Network (RFIG) accident rate.**

# COMPARATIVE ANALYSIS

The tables below show the data on the total number of events investigated (accidents and incidents), the victims (fatalities, serious and minor injuries) and the recommendations made in each of the final reports that resulted from investigations over the last seven years.

As can be seen from the first table, the downwards trend persists as regards the amount of events investigated (11 in 2016 as opposed to 23 in 2012 and 2013). This drop is in keeping with the general trend to be seen in the rest of Europe, where CIAF'S counterpart bodies are also tending to focus investigations on increasingly fewer cases. Indeed, investigations are concentrating on those cases from which most can be learnt to generally improve railway system safety. This is the criterion that has been applied by CIAF since 2009. Near misses, collisions and derailments continue to be the types of event that require the most attention.

As far as the accident rate is concerned, the O Porriño accident on 9 September causing the death of four people, broke the prevailing trend of recent years.

As regards the number of recommendations issued, this matter is dealt with in the following section (section 7).

**EVENTS TO BE INVESTIGATED 2010‐2016**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **YEAR** | **2010** | | | **2011** | | | **2012** | | | **2013** | | | **2014** | | | **2015** | | | **2016** | | | **GRAND TOTAL** |
| **NETWORK**  **TYPE** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **Port Auth.** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** |
| **SERIOUS ACCIDENT** | Collision | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
| Derailment |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | 1 |  | **1** | **2** |
| **ACCIDENT** | Collision | 1 |  | **1** | 3 |  | **3** | 3 | 2 | **5** | 3 | 1 | **4** | 2 |  | **2** | 3 |  | **3** | 3 |  | **3** | **21** |
| Derailment | 6 | 2 | **8** | 13 | 1 | **14** | 6 | 2 | **8** | 7 | 2 | **9** | 4 | 1 | **5** | 4 |  | **4** | 2 |  | **2** | **50** |
| Level crossings | 4 | 3 | **7** | 1 |  | **1** | 1 |  | **1** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | **10** |
| Personal injury | 4 |  | **4** | 1 |  | **1** |  |  | **0** | 1 |  | **1** | 1 |  | **1** |  |  | **0** |  |  | **0** | **7** |
| Fire |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** | 1 |  | **1** | **2** |
| Runaway stock |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  | 1 | **1** |  |  | **0** | **1** |
| **INCIDENT** | Near miss | 6 | 1 | **7** | 3 |  | **3** | 4 | 1 | **5** | 4 | 2 | **6** | 2 |  | **2** | 5 |  | **5** | 3 | 1 | **4** | **32** |
| Incipient fire |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  | **1** |
| Vehicle component (loss of door) |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
| Track warping |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | **1** |
| Runaway stock |  |  | **0** |  | 1 | **1** |  | 1 | **1** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **2** |
| Breach of regulation |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** | **1** |
| Badly prepared route |  |  | **0** | 1 |  | **1** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **2** |
| Incorrect traffic operation |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | **1** |
| Signal overrun |  |  | **0** |  |  | **0** | 1 | 1 | **2** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **2** |
| Broken axle |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
|  | **TOTAL** | **22** | **6** | **28** | **22** | **2** | **24** | **16** | **7** | **23** | **18** | **5** | **23** | **13** | **1** | **14** | **14** | **1** | **15** | **10** | **1** | **11** | **138** |

**VICTIMS (FATALITIES, SERIOUS AND MINOR INJURIES) OF THE EVENTS INVESTIGATED 2010-2016**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **YEAR** | **FA**  **/ SI / MI** | **2010** | | | **2011** | | | | **2012** | | | | **2013\*** | | | | **2014** | | | | **2015** | | | | **2016\*\*** | | | | **GRAND TOTAL** |
| **NETWORK**  **TYPE** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **FEVE** | | **TOTAL** | **ADIF** | **FEVE** | | **TOTAL** | **ADIF** | **ADIF (RAM)** | | **TOTAL** | **ADIF** | **ADIF (RAM)** | | **TOTAL** | **ADIF** | **Port Auth.** | | **TOTAL** | **ADIF** | **ADIF (RAM)** | | **TOTAL** |
| **SERIOUS ACCIDENT** | Collision | FA | 1 |  | **1** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **1** |
| SI |  |  | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **0** |
| MI |  |  | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **0** |
| Derailment | FA |  |  | **0** |  |  | | **0** |  |  | | **0** | 80 |  | | **80** |  |  | | **0** |  |  | | **0** | 4 |  | | **4** | **84** |
| SI |  |  | **0** |  |  | | **0** |  |  | | **0** | 73 |  | | **73** |  |  | | **0** |  |  | | **0** | 13 |  | | **13** | **86** |
| MI |  |  | **0** |  |  | | **0** |  |  | | **0** | 79 |  | | **79** |  |  | | **0** |  |  | | **0** | 34 |  | | **34** | **113** |
| **ACCIDENT** | Collision | FA | 1 |  | **1** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **1** |
| SI |  |  | **0** |  |  | | **0** | 1 |  | | **1** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **1** |
| MI |  |  | **0** | 18 |  | | **18** | 37 | 9 | | **46** | 15 | 7 | | **22** | 2 |  | | **2** | 2 |  | | **2** | 5 |  | | **5** | **95** |
| Derailment | FA |  |  | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **0** |
| SI |  |  | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **0** |
| MI |  |  | **0** | 1 |  | | **1** |  |  | | **0** | 3 |  | | **3** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **4** |
| Level crossings | FA | 5 | 3 | **8** |  |  | | **0** |  |  | | **0** |  |  | | **0** | 1 |  | | **1** |  |  | | **0** |  |  | | **0** | **9** |
| SI | 1 |  | **1** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **1** |
| MI |  |  | **0** | 2 |  | | **2** | 1 |  | | **1** |  |  | | **0** | 1 |  | | **1** |  |  | | **0** |  |  | | **0** | **4** |
| Personal injury | FA | 14 |  | **14** | 1 |  | | **1** |  |  | | **0** | 1 |  | | **1** | 1 |  | | **1** |  |  | | **0** |  |  | | **0** | **17** |
| SI | 10 |  | **10** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **10** |
| MI | 12 |  | **12** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** |  |  | | **0** | **12** |
|  | **TOTAL** | **FA** | **21** | **3** | **24** | **1** | | **0** | **1** | **0** | | **0** | **0** | **81** | | **0** | **81** | **2** | | **0** | **2** | **0** | | **0** | **0** | **4** | | **0** | **4** | **112** |
|  | **SI** | **11** | **3** | **11** | **0** | | **0** | **0** | **1** | | **0** | **1** | **73** | | **0** | **73** | **0** | | **0** | **0** | **0** | | **0** | **0** | **13** | | **0** | **13** | **98** |
|  | **MI** | **12** | **0** | **12** | **21** | | **0** | **21** | **38** | | **9** | **47** | **97** | |  | **104** | **3** | | **v** | **3** | **2** | | **0** | **2** | **39** | | **0** | **39** | **228** |

\*Includes casualties of the accident in Santiago de Compostela on 24 July 2013

\*Includes casualties of the accident in O Porriño on 9 September 2016

**RECOMENDATIONS MADE 2010‐2015 (\*) TO 31/12/2016**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **YEAR** | **2010** | | | **2011** | | | **2012** | | | **2013** | | | **2014** | | | **2015\*\*** | | | **GRAND TOTAL** |
| **NETWORK**  **TYPE** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **Port Auth.** | **TOTAL** |
| **SERIOUS ACCIDENT** | Collision | 3 |  | **3** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **3** |
| Derailment |  |  | **0** |  |  | **0** |  |  | **0** | 9 |  | **9** |  |  | **0** |  |  | **0** | **9** |
| **ACCIDENT** | Collision | 1 |  | **1** | 1 |  | **1** | 6 | 1 | **7** | 3 | 1 | **4** | 2 |  | **2** |  |  | **0** | **15** |
| Derailment | 18 | 3 | **21** | 17 | 1 | **18** | 13 | 3 | **16** | 7 | 4 | **11** | 5 | 1 | **6** | 6 |  | **6** | **78** |
| Level crossings | 7 | 6 | **13** | 1 |  | **1** | 2 |  | **2** |  |  | **0** | 4 |  | **4** |  |  | **0** | **20** |
| Personal injury | 4 |  | **4** | 3 |  | **3** |  |  | **0** | 1 |  | **1** | 3 |  | **3** |  |  | **0** | **11** |
| Fire |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 2 |  | **2** |  |  | **0** | **2** |
| Runaway stock |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  | 6 | **6** | **6** |
| **INCIDENT** | Near miss | 1 | 2 | **3** | 3 |  | **3** |  | 1 | **1** | 1 | 3 | **4** | 1 |  | **1** | 9 |  | **9** | **21** |
| Incipient fire |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **0** | 2 |  | **2** | **2** |
| Track warping |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** | **1** |
| Runaway stock |  |  | **0** | 1 |  | **1** |  | 3 | **3** |  |  | **0** |  |  | **0** |  |  | **0** | **4** |
| Badly prepared route |  |  | **0** |  | 3 | **3** |  |  | **0** | 1 |  | **1** | 2 |  | **2** |  |  | **0** | **6** |
| Signal overrun |  |  | **0** |  |  | **0** | 1 | 2 | **3** |  |  | **0** |  |  | **0** |  |  | **0** | **3** |
| Broken axle |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
|  | **TOTAL** | **34** | **11** | **45** | **26** | **4** | **30** | **23** | **10** | **33** | **22** | **8** | **30** | **20** | **1** | **21** | **17** | **6** | **23** | **182** |

\* 2016 was not included, given that on 31 December the investigation of any of the accidents that occurred that year had not been closed

\*\* The recommendations made in 2015 correspond to events that occurred that year, the investigation of which was closed in 2016, which amounts to 10 events of the total of 15 that it was decided to investigate that year

# RECOMMENDATIONS

## Recommendations made in 2016

The purpose behind the CIAF investigation of accidents and incidents is to contribute to the perfecting of railway safety by identifying possible improvements based on the study and analysis of the events investigated (expressly excluding the determining of liabilities and blame). Those possible improvements put forward in the safety recommendations made are made public in the final reports. Moreover, the recommendations made are submitted to the bodies involved: the National Safety Agency (which in Spain is the Agencia Estatal de Seguridad Ferroviaria – AESF), and the European Union Agency for Railways (ERA or EUAR).

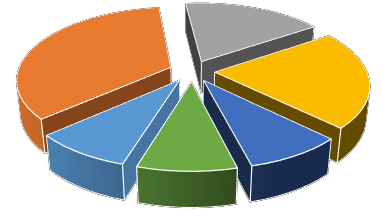
The investigation of eleven events (one from 2014 and 10 from 2015) was closed in 2016. The final report of 9 of these contained recommendations.

A total of 23 recommendations were made in 2016 (all of which referred to events that occurred in 2015), which amounts to an average of 2 recommendations per investigated event.

Broken down by event, the recommendations are distributed as follows: by near misses 39% (9), by derailment 26% (6), by runaway stock 26% (6) and by incipient fire 9% (2).

With respect to recipients, as required by the regulations, all recommendations are addressed to the National Safety Authority. Nevertheless, the CIAF identifies the measures necessary to comply with the recommendation in the final report on the investigation sent to the implementing body (final recipient). Thus the final recipients of these 23 recommendations are:

|  |  |  |  |
| --- | --- | --- | --- |
| FINAL RECIPIENTS | | RECOMMENDATIONS | |
| National Safety Authority | **AESF** | 2 | 9% |
| Infrastructure Managers | **Adif** | 8 | 35% |
| **Port Authority of Gijón (APG)** | 4 | 17% |
| Railway Companies | **Continental Rail** | 5 | 22% |
| **Renfe Operadora** | 2 | 9% |
| **UTE APG Rail** | 2 | 9% |



**Adif**

Final recipients of the recommendations

**Port Authority of Gijón (APG)**

**35%**

**17%**

**Continental**

**Rail 22%**

**AESF**

**9%**

**UTE APG Rail**

**9%**

**Renfe**

**Operator**

**9%**

## Measures adopted in 2016 as a result of the recommendations made

Article 15.7 of Royal Decree 623/2014 of 19 July states that the CIAF annual report must contain, in addition to the investigations conducted and the recommendations made that year (contained in the above paragraphs), the information received about the degree of implementation of the measures adopted in accordance with the previously issued recommendations.

This section contains information on the measures adopted by the corresponding final recipients and reported to the Spanish National Railway Safety Agency (AESF) in 2016, in response to recommendations made by the CIAF since it commenced on its activities back in December 2007.

The information listed in the tables below has been provided by the body acting as the National Railway Safety Authority (AESF), which is responsible for monitoring the recommendations made by the CIAF, assessing the measures adopted by the final recipients to implement these and reporting to the CIAF.

Accordingly, the following table contains the total number of recommendations made by the CIAF since its founding up to 31 December 2016 (268) and the number of these the compliance with which has been considered satisfactory on the basis of the measures adopted (200). Moreover, the recommendations the compliance with which is considered satisfactory in 2016 is specified, as accordingly notified to this Commission.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | No. of files with recommendations | Total recommendations | Total with satisfactory compliance | %  recommendations | Recommendations the satisfactory compliance with which has been notified in 2016 | | | | |
| 2007 | 2 | 2 | 2 | 100% |  |  |  |  |  |
| 2008 | 31 | 45 | 43 | 96% |  |  |  |  |  |
| 2009 | 26 | 39 | 36 | 92% |  |  |  |  |  |
| 2010 | 20 | 45 | 42 | 93% |  |  |  |  |  |
| 2011 | 18 | 30 | 27 | 90% |  |  |  |  |  |
| 2012 | 16 | 33 | 27 | 82% | 40/12-1 |  |  |  |  |
| 2013 | 17 | 30 | 16 | 53% | 43/13-1 | 44/13-2 | 62/13-1 |  |  |
| 2014 | 12 | 21 | 5 | 24% | 05/14-1 | 34/14-1 | 44/14-1 | 44/14-2 | 44/14-3 |
| 2015 | 9 | 23 | 2 | 9% | 05/15-2 | 05/15-3 |  |  |  |
| **Total** | **151** | **2268** | **200** | **75%** |  |  |  |  |  |

2016 was not included, given that on 31 December 2016 the investigation of any of the accidents that occurred that year had not been closed.

Below, the measures adopted by the implementing bodies (final recipients) are specified, along with the CIAF to which they respond, and which the National Railway Safety Authority (AESF) has reported to CIAF in the course of 2016. These are broken down by event (File No.) and recommendation, final recipient and date when the National Safety Authority was notified of the measure.

|  |
| --- |
| **FILE 0025/11** |
| **CIAF recommendation No. 25/11-2** |
| Study the possibility of including in the Rubí Station signalling operation programme, gauge changer conditions and those of other devices so that when establishing routes the direction of these track devices are taken into account when they follow a signal and can be affected by possible overruns. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 04/05/2016):** |
| **Adif** reported as follows:  *The Network and Planning Office has conducted a preliminary analysis of the third track signalling between Barcelona Morrot and Figueres and come to the following conclusions:*   * *The proposed solution consists of implementing directional overlaps in those areas where there are gauge changers, interlocking the track devices where necessary.* * *In new facilities, the following will be taken into account: either the gauge changers and switches that distinguish gauge will not be in the overlap zone or, where this is not feasible, directional overlaps will be implemented.*   *These solutions impact on interlocking complexity (new incompatibilities), and also have an economic impact, which must be taken into account in designs and projects.*  In a subsequent communication, Adif reported that “*the CIAF recommendation is being implemented in all projects and works with a third track and specifically on L/600. Moreover, a draft operating regulation for facilities with a third track has been written*”. |

|  |
| --- |
| **FILE 0040/12** |
| **CIAF recommendation No. 40/12-1** |
| Examine the feasibility of providing the mechanical signals of this station with ASFA balises in order to mitigate traffic risks. Where appropriate, look at the application of this measure at other similar facilities. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 16/06/2015 and 23/08/2016):** |
| On 16 June 2015, Adif sent a report indicating the following:   1. *The current Tocón-Montefrío facility will be closed on the coming into service of the AV Antequera Santa Ana-Granada line scheduled for the end of 2015.* 2. *The initiative of transferring the pilot project to Pedrera Station (Seville) on the Fuente Piedra to Granada line, has been changed as the modernisation of all signalling facilities along the Arahal-Pedrera section of that line has been proposed. At present the* Investment proposal in Adif assets: ABS with CTC Arahal- Fuente Piedra *has been signed and scheduled annually for 2015, 2016 and 2017.* 3. *It is expected that the construction project for the “installation of standardised signals and ASFA at the Pedrera stop” be adapted to be carried out at Gibraleón Station on the Zafra-Huelva line in a similar situation to that of Tocón-Montefrío Station (origin of the recommendation) as far as safety installations are concerned. This adaptation is currently under study by the Facilities Technical Sub-Directorate.*   Subsequently, Adif sent a letter to the AESF on 23 August 2016 to supplement the report. The main points worthy of note in this letter are as follows:   1. *After several analyses and proposals, the technical reports and economic assessments lead us to believe that it would be more reasonable to put forward lines of action based on solutions which, in addition to the fitting of ASFA balises, would be technically scalable and enable likewise the improvement of other elements such as the interlocking, signalling and locking systems.* 2. *Accordingly, Adif is considering the drafting of a* Safety Installation Improvement Plan*, aimed at gradually enhancing safety levels (from both the Adif perspective, as well as that of the Railway Companies) along the lines of, and similar in character to, the outcomes resulting from the Tocón Montefrío incident. To this end, and to define the aforementioned plan with a view to encompassing a sufficiently broad and shared vision, we believe it advisable to hear the criteria that might be brought to the table by the Railway Companies, as well as the AESF, in terms of standards and specifications.* 3. *In accordance with this approach, and as soon as we have a preliminary general outline of the Plan, Adif will propose a shared analysis of the same. Nevertheless, until such time it remains open to any suggestions or contributions that may be made.* |

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| **FILE 0061/12** |
| **CIAF recommendation No. 61/12-1** |
| Update the maintenance manuals for Leks type car-carrier wagons for mainland transport to match the period of the axle maintenance cycle with type R wagon maintenance operation. |
| **Final recipient:** **Transfesa** |
| **Measures adopted by the final recipient (reported to AESF on 06/04/2016):** |
| **Transfesa** responds as follows:  *In reply to your letter concerning the replacement of the axleboxes for type 66 axles which are fitted to Leks series wagons, we hereby inform you of the different phases and estimated time scale for the same into which the change process is divided, and which is carried out jointly with the manufacturer SKF:*  ***PHASE 1:*** *SKF process, as manufacturer, to launch the new axlebox on the market. This phase covers:*   * *the study of compatibility of the new axlebox as a replacement for the current one.*   ***Achieved***   * *validation tests on the new axlebox (2 months).****Currently in progress*** * *analysis of the results and generation of reports for submission to the corresponding authorities (2 months).*   ***PHASE 2:*** *mass production by SKF of the new axlebox (6 months)*  ***PHASE 3:*** *factory fitting of the new axlebox to Leks series wagons that are fitted with type 66 (6 months).* ***Estimated start date, first six months of 2017.***  ***PHASE 4:*** *modification of the wagon maintenance documentation, where appropriate, to include the recommendations stipulated by the manufacturer of the new axlebox.* |

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| **FILE 0061/12 (continued)** |
| **CIAF recommendation No. 61/12-2** |
| Establish an agreement with Transfesa to set up the plan for adapting and installing type 65 axles on Leks type wagons with type 66 axles, monitoring its implementation as well as its result. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 06/04/2016):** |
| Reply sent by **Adif** on 28/08/2014 and 28/04/2015:  *Although setting up the plan for adapting and installing type 65 axles on Leks type wagons with type 66 axles is a matter for TRANSFESA as the entity in charge of maintenance of this series of wagons, Adif has been having various communications and meetings with TRANSFESA and also closely monitoring installation. The current state of the fleet of 155 wagons in the LEKS series, once mounting is complete of all the “adapted” type 65 axles those which TRANSFESA had is as follows:*  *42 wagons fitted with ‘adapted’ type 65 axles, 113 wagons fitted with type 66 axles.*  *Although this measure offers an improvement in safety, once all the “adapted” type 65 axles which TRANSFESA had have been mounted this will not cover the entire fleet of wagons affected. As a result we consider this to be a provisional measure, and ultimately the solution will have to be the replacement of the axleboxes that are currently mounted on the type 66 axles by ones which, according to TRANSFESA, are in the process of verification and certification, for subsequent referral to the Department of Railways.* |

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| **FILE 0043/13** |
| **CIAF recommendation No. 43/13-1** |
| Incorporate into the rules applicable to the work described in this report, in particular in Experimental Standing Instruction C No 58, the mandatory use of protection by means of short-circuiting tools (on lines with electric track circuits) and signals (on lines without electric track circuits). |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 15/01/2016):** |
| On 19 December 2014, **Adif** Traffic Safety Directorate, jointly with Adif-AV Traffic Safety Sub-Directorate, published a new edition of Experimental Standing Instruction C No 58, cancelling that issued on 18 January 2001. Its content applies as of 15 February 2015, complementing that which is provided for in Article 341.2 of the General Traffic Regulation. |

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| **FILE 0044/13** |
| **CIAF recommendation No. 44/13-1** |
| Look into the possibility of bringing forward the dates for implementation of the proposed measure (‘weld seam’). |
| **Final recipient:** **Renfe Operadora** |
| **Measures adopted by the final recipient (reported to AESF on 11/01/2016):** |
| **Renfe** responds that the maintainer has completed the welding of the lever support to the wheel box on the entire fleet fitted with Brava axles. This lever releases the locking of the wheel and enables it to shift during the gauge changing process.  Moreover, Renfe has established the carrying-out of the non-destructive tests (NDT) to verify the effectiveness of the solution adopted. This type of verification will be incorporated into the Maintenance Plan for these vehicles.  Considering the actions taken, Renfe considers the recommendation has been met and proceeds to close the monitoring file. |

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| **FILE 0060/13** |
| **CIAF recommendation No. 60/13-1** |
| Identify, within the metre gauge network (*Red de Ancho Métrico – RAM*), when systems are installed that are similar to the one described in this report in order to analyse their performance and to study potential improvement actions. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 12/01/2016):** |
| **Adif** sends the Report b the RAM Operations Sub-Directorate of January 2016, in which it is indicated that:  *After making the recommendation, 71 RAM signalling stations and 56 automatic blocking sections in which there is equipment with relays. Since the date of the incident, only normal faults has occurred at these types of installation, without any incident like the one originating the report having been recorded.*  *After the event referred to, checks were done on the Mogro-Bezana and Bezana-Adarzo sections, fitted with the same types of relays. The correct functioning of these was confirmed. Subsequently, the signalling station at Bezana has been replaced by electronic signalling, which has also made it possible to replace the blocking relays between Magro and Bezana for software technology that carries out its function.*  *Observations [recommendations] by the SGSC of Traffic Safety Directorate: Promote from Adif an Investment Plan that covers the undertaking of actions to replace the currently implemented relay-based technologies for other software and electronically-based ones that enable their elimination.*  *[Accordingly], the RAM Operations Sub-Directorate has drawn up one [a plan] to covers the replacement within three years of the 20 free wired signalling station and geographical groups for electronic ones, as well as the renewal of the equipment and its corresponding automatic blocking sections currently supported by relay technology for other modern ones without it. These actions are prioritised by taking into account the degree of ageing of the installations and the level of request for the same (Commuter as opposed to Middle-Distance). Current plans involve the replacement in this period of 1 signalling station in Galicia, 4 in Asturias, 8 in Cantabria and 7 in Vizcaya. The estimated budget is €35 million.* |

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| **FILE 0060/13 (continued)** |
| **CIAF recommendation No. 60/13-2** |
| Include in the installation maintenance plans actions that are aimed at reviewing and verifying the performance of the relay systems with similar features to those described in this report. The review and verification must have the frequency and form specified in the manufacturer's technical specifications. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 12/01/2016):** |
| **Adif** sends the Report b the RAM Operations Sub-Directorate of January 2016, in which it is indicated that:  *In the Maintenance Plans for the installations verification actions have been included as regards the condition and functioning of relays similar to those described in the report on the event.*  *In keeping with the actions undertaken in the RAM integration process at Adif, which covers the adapting of their procedures, the maintenance plans have also been subject to on-going adaptation, basing their coherence on Adif specifications, which currently consider an annual intervention on each installation. Accordingly, the following are included among the actions to be taken at each signalling station: Checking of the general condition of relay elements and bases, the visual inspection of the fitting of the relays into bases, the state of the contacts and the state of the relay extension (as is the case with Dimetronic technology).* |

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| **FILE 0062/13** |
| **CIAF recommendation No. 62/13-1** |
| Look into the possibility of amending the maintenance plans for vehicles similar to the one in this report (track cars and trucks, etc.), such that operations to dismantle the axleboxes and inspect the axles using particle and ultrasound testing are carried out during a larger number of interventions, without being restricted simply to the level provided for in the maintenance plans, with the aim of shortening the time between said interventions. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 12/01/2016):** |
| **Adif** North Operations and Maintenance Directorate sends a 24-page report drawn up by the Production Resources Management Area in June 2015 to study, as per the recommendation, the possibility of changing the car, truck and other similar vehicle maintenance plans. |

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| **FILE 0066/13** |
| **CIAF recommendation No. 66/13-1** |
| Analyse the feasibility of introducing the necessary modifications in 130 rolling stock to allow the transition from ERTMS to ASFA Digital avoiding the need to do so when the train is at a standstill. Extend this recommendation, where appropriate, to the other models which could have this problem. |
| **Final recipient:** **Renfe Operadora** |
| **Measures adopted by the final recipient (reported to AESF on 22/01/2016):** |
| **Renfe** submitted a document stating that:  *The Renfe Group has opened a file to undertake the aforementioned modification that was tendered on 3 December 2015. The aforementioned file affects 44 vehicles in the Renfe Viajeros fleet for the sum of some €6.3 million and has a completion date of 24 months as of the signing of the contract.* |

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| **FILE 0069/13** |
| **CIAF recommendation No. 69/13-1** |
| Insist on refresher courses for traffic personnel on the risk represented by non-regulatory conduct, even though these are aimed at attempts to operate under adverse conditions. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 12/01/2016):** |
| **Adif** sends a report to the North Operations and Maintenance Directorate in June 2015, in which it indicates:  *The need to request the requisite training actions of the Traffic Training Centre has been conveyed by our Directorate-General to Human Resources Management to make traffic personnel aware of the risks involved in all type of regulatory breach, as well as informing us of the contents of the same and their implementation to be able to report accordingly as to its development and progress.* |

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| **FILE 0005/14** |
| **CIAF recommendation No. 05/14-1** |
| Recommendation 43/13-1 is reiterated: ‘Incorporate into the rules applicable to the work described in this report, in particular in Experimental Standing Instruction C No 58, the mandatory use of protections by means of short-circuiting tools (on lines with electric track circuits) and signals (on lines without electric track circuits).’ |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 15/01/2016):** |
| ***SEE RESPONSE TO RECOMMENDATION 43/13-1 (FILE 0043/13)*** |

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| **FILE 0036/14** |
| **CIAF recommendation No. 36/14-1** |
| Commence measures aimed at replacing the current crossing between platforms at the station by a crossing on a different level. |
| **Final recipient:** **AESF** |
| **Measures adopted by the final recipient (reported to AESF on 23/03/2016):** |
| **Renfe** reports as follows:  *As regards the building of a crossing at a different level at the station, Renfe will undertake this action, following the indications given by the General Secretariat for Railway Infrastructures and upon agreement with Adif. Moreover, the Town Council and Renfe will sign an agreement for the crossing also to serve as a pedestrian crossing to the town. It is expected that the works will be contracted in 2016.* |
| **CIAF recommendation No. 36/14-2** |
| Whilst the current crossing is still in place, to arrange for better signage at this by putting up notices to remind pedestrians of the need to look and make sure that a train is not approaching. |
| **Final recipient:** **AESF** |
| **Measures adopted by the final recipient (reported to AESF on 23/03/2016):** |
| **Renfe** reports as follows:  *With respect to reinforcing the signage, Renfe Viajeros Civil Protection Centre and Management Commission has agreed to a new sign text and, will proceed with its installation soon.* |

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| **FILE 0041/14** |
| **CIAF recommendation No. 41/14-1** |
| Reconsider the 252 High Speed locomotive maintenance plan, incorporating into the same maintenance actions considered to be adequate, the checking of the tightness of the Q1 system switch connectors and leaving a documentary record of the aforementioned operation. Moreover, as part of the maintenance actions considered to be adequate will be a visual inspection to check for the absence of oil leaks in the main transformer connection area. |
| **Final recipient:** **Renfe Operadora (Maintenance Bodies - EEM)** |
| **Measures adopted by the final recipient (reported to AESF on 22/01/2016):** |
| **Renfe** sent a letter indicating that:  *In November 2015 a start was made on managing the recommendations with the maintainer of this material, Alstom in this case.*  *At present the recommended maintenance operation is being carried out and the Maintenance Plans are pending updating.* |
| **CIAF recommendation No. 41/14-2** |
| Improve the fire detection system fitted to those locomotives, so that the aforementioned system is able to detect the outbreak of fires of a similar nature. |
| **Final recipient:** **Renfe Operadora (Maintenance Bodies - EEM)** |
| **Measures adopted by the final recipient (reported to AESF on 22/01/2016):** |
| **Renfe** sent a letter indicating that:  *With respect to this recommendation, the feasibility of improving the current fire safety system is under study and once the possible action is approved, its implementation will be determined in the locomotives that currently have the system (18 x 252 UIC passenger and freight locomotives) and the implementation of the fire safety system, with the approved improvement, will be transferred to the rest of the locomotives (Ibérico passenger locomotive 252) that do not have it. A meeting has been arranged next week with those in charge of Manufacturing and Maintenance at Alstom to assess a modification to the current system, given that, after studying the various alternatives, it seems feasible to increase the number of temperature sensors and smoke detectors without any need to change the central system or to relocate the actual ones. After the proposal has been technically approved, it will be economically assessed to request the approval of Viajeros and Mercancías for its implementation.* |

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| **FILE 0044/14** |
| **CIAF recommendation No. 44/14-1** |
| Include the systematic replacement, in the maintenance plan, of the gasket (scraper) in GVG operating cycles (1,200,000 km) and over. The aforementioned replacement will be done in those operations where the coupling system is dismounted. |
| **Final recipient:** **Renfe Operadora (Maintenance Bodies - EEM)** |
| **Measures adopted by the final recipient (reported to AESF on 18/01/2016):** |
| **Renfe** sent a letter indicating that:  *As a mitigating action against the root cause of this event, whenever the coupling has to be dismounted for maintenance, whether corrective or preventive, the scraper must be changed systematically.*  *The reference technical documentation has included the replacement of the scraper gasket in the Maintenance Technical Standard for the BRAVA axle and, as regards preventive maintenance, the Maintenance Plan has included an operation consisting of measuring the clearance between the semi-coupling teeth, based on intervention 13 (every 150,000 km), considering this operation more conclusive that the measuring of stresses.* |
| **CIAF recommendation No. 44/14-2** |
| Monitoring investigations on changing scrapers and new toothing of the gauge change system. Plan to implement the result of the same. |
| **Final recipient:** **Renfe Operadora (Maintenance Bodies - EEM)** |
| **Measures adopted by the final recipient (reported to AESF on 18/01/2016):** |
| **Renfe** sent a letter indicating that:  *With respect to the scraper, it should be pointed out that there is already a new scraper model and a start was made on its implementation in November 2015. Likewise, as of that date, couplings with the same teeth geometrical characteristics have been acquired, though the mechanical characteristics of the base material has been improved, as well as the surface treatment (hardened).*  *As far as the new toothing is concerned, see the comments made in paragraph II of Recommendation 44/14-3.* |

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| **FILE 0044/14 (continued)** |
| **CIAF recommendation No. 44/14-3** |
| Finish the implementation of all the modifications in the translational stress measurement operation in the gauge change established in point 5 of the [CIAF] Final Report. Change the corresponding maintenance documentation. |
| **Final recipient:** **Renfe Operadora (Maintenance Bodies - EEM)** |
| **Measures adopted by the final recipient (reported to AESF on 18/01/2016):** |
| **Renfe** sent a letter indicating that:   1. *Possibility of mounting split scrapers in the pit and greasing the toothed joint in the changer itself. Possibility of greasing axles in short cycles that have stress measurements over the minimum threshold.*   *Doing away with the measurement. The operation was done on 4 axles as a pilot experience. The result was not satisfactory as the deteriorated grease was left inside the toothed joint. It is not considered a valid operation after scraper and grease degradation.*   1. *Bench test of a new high module toothing and one with greater surface hardness.*   *There are two lines of work, one related to the quality of the material used and the other to the design of a new toothing:*   * + ***part with current toothing design****, the base material, the quality of the toothing and the surface treatment have all been improved. All those fitted to replace others since October 2015 have met these new criteria. They are changed according to wear and tear.*   + ***prototype*** *of a pair of couplings with new toothing design, currently pending being mounted on a train to analyse their behaviour. Long-term study phase. Results expected in 4 years.*  1. *Measuring of changer stresses. Recording of stresses.*   *Implemented by the maintainer.*   1. *Measuring of changer stresses. Degradation calculation report. Practical effectiveness of measurement.*   *Need to have a fleet with a new scraper and new couplings to study the correlation between stresses and level of degradation. Obtaining of expected long-term results (4 years).*  *Based on the lessons learnt, the measuring of stresses is not considered an effective preventive maintenance operation as it does not provide information as to the state of wear and tear of the toothing; it has been replaced in maintenance plans by the systematic measuring of clearances (and in response to recommendation 44/14- 1), as a maintenance operation that enables the prevention of the anomalous wear and tear of the coupling gears.* |

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| **FILE 0051/14** |
| **CIAF recommendation No. 51/14-1** |
| Promote the implementation of the project entitled “Second information on the reinforcement of Colombres bedding-foundation” with a view to establishing normal traffic conditions. Meanwhile, the pertinent provisional speed limit (LTV) must be respected, as must the inspection visits to that section of the track. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 26/09/2016):** |
| According to the Infrastructure Management Office of the **Adif** Metre Gauge Network Sub-Directorate, the planned action is at an advanced state of completion. It is expected that the works will be completed in October, which would see an end to the planned actions.  A provisional speed limit of 30 km/h remains in place between KP PK 451+400 and 452+000 on line 770 in accordance with Provisional Traffic Regulation Series B GATR No 51/2016 Asturias. Temporary speed restrictions.  Moreover, scheduled on-the-spot inspections are being carried out. The last one was done by Adif Safety Management Office on 31 March (2016). |

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| **FILE 0061/14** |
| **CIAF recommendation No. 61/14-1** |
| Promote both the corrective and preventive maintenance to conserve safe driving conditions on the Tarragona Clasificación EV track. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 29/11/2016):** |
| As a supplement to the letter sent on 26 September, **Adif** reported that a start had been made on the contracting of the complete restoration work on the Tarragona Clasificación EV track, with a view to commencing work in January 2017. |

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| **FILE 0005/15** |
| **CIAF recommendation No. 05/15-2** |
| Require railway companies and infrastructure managers to include a procedure in their safety management systems (SMS) that makes it possible to trace training initiatives, especially those of a practical nature. This procedure must specify the activity models to be established by the different managers for each of the training activities. |
| **Final recipient:** **AESF** |
| **Measures adopted by the final recipient (reported to AESF on 16/11/2016):** |
| **AESF** issued the TECHNICAL RECOMMENDATION 3/2016 ON SEVERAL ISSUES CONCERNING RAILWAY PERSONAL TRAINING AND THEIR QUALIFICATIONS. |
| **CIAF recommendation No. 05/15-3** |
| Specify a maximum period for railway companies and infrastructure managers to incorporate the provisions contained in the *AESF Resolution of 23 December 2015* (Official Gazette of the Spanish State (BOE) of 27 January 2016), into their safety management systems (SMS), and for these to be fully operational. |
| **Final recipient:** **AESF** |
| **Measures adopted by the final recipient (reported to AESF on 16/11/2016):** |
| **AESF** issued the TECHNICAL RECOMMENDATION 3/2016 ON SEVERAL ISSUES CONCERNING RAILWAY PERSONAL TRAINING AND THEIR QUALIFICATIONS. |

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| **FILE 0012/15** |
| **CIAF recommendation No. 12/15-1** |
| It is insisted that CIAF Recommendation 32/11-1 be applied: ‘Analyse the viability of replacing the entire wooden sleeper section with concrete sleepers, or alternatively replace those that are in bad condition with new ones of the same material’, implementing the ‘Project for the replacement of wooden sleepers with concrete sleepers on a 4-kilometre stretch of track'. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 26/09/2016):** |
| **Adif** reported that the following actions had been carried out with respect to this recommendation:  *As part of the commuter action plan the* Restoration of the superstructure of the Cercedilla-Los Cotos line track *has been requested for 2017, in which the two previous programmes we had requested are encompassed for a sum of €3,471,277.05, which covers:*   * *replacement of the 6,500 rigidly secured wooden sleepers for single-block, elastically secured concrete ones between KP 4+600 and 8+500* * *replacement of 885 wooden sleepers at still existing joints between KP 8+500 and 18+000* * *replacement of 7,500 m of track* * *fitting of 200 joint stiffening elements* * *renewal of the ballast border*   *Moreover, and until the project is approved, Madrid Norte Area Management, which is in charge of the Track and Infrastructure Preventive Treatment Plan (PTVI), has carried out the following actions:*   * *in 2015, 3,748 m of track was changed, 2,258 m of which was between KP 4+600 and 8+500 at a cost of €218,683. This represents 30.1% of the track foreseen for the project referred to in the previous point,* * *at present another action at a cost of €506,209.85 is in progress, under the same plan, which consists of the changing of 3,140 wooden sleepers for others made of another material* |

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| **FILE 0012/15 (continued)** |
| **CIAF recommendation No. 12/15-2** |
| Comply with the established frequency and quality of on-site visits for the line and reconsider the traffic conditions of the line in light of the control sheets and any issues identified, ensuring these are resolved. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (reported to AESF on 26/09/2016):** |
| **Adif** reported that the following actions had been carried out with respect to this recommendation:  *On-the-spot inspections:*   * *second six months in 2015, conducted from 9 to 14 October* * *first six months 2016, conducted on 25 April and 26-27 May*   *In the first six months of 2015, as a result of the accident and on the days on which the line was cut off, an on-the-spot inspection was made and the defects detected were remedied but this action was not recorded in accordance with the relevant procedure (ADIF-PE-301-001-VIA).*  *Cab inspection:*   * *in 2015, this was done on 17 February, 14 April, 2 June, 17 August, 5 October and 9 December* * *in 2016 it was done on 22 February and 11 April*   *The defects detected in the inspections are being remedied by specific actions during daily maintenance and with the work already described in the second point in measure 12/15-1, all of them under the PTVI.*  *It should be pointed out that the work that causes us the greatest difficulty at present is related to the ballast border, given that due to the high level of pollution of the same caused by the mountain silt and needles, we are prevented from doing proper levelling work, both crosswise and lengthwise, a problem that will be sorted out with the renewal of the same, which is planned in the action requested as part of the commuter plan.* |

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| **FILE 0028/15** |
| **CIAF recommendation No. 28/15-1** |
| Refresher training courses for drivers should go over the different acceleration and braking behaviours of rolling stock under the various conditions in which they might operate. |
| **Final recipient:** **Continental Rail** |
| **Measures adopted by the final recipient (reported to AESF on 16/11/2016):** |
| In addition to the report request sent to Continental (15/11/16), the **AESF** has published, as reinforcement, the TECHNICAL RECOMMENDATION 4/2016. ACTIONS RELATED TO THE QUALIFICATION CERTIFICATES OF RAILWAY PERSONNEL AFTER EVENTS INVOLVING HUMAN ERROR. |
| **CIAF recommendation No. 28/15-2** |
| A procedure should be drafted and included in the Continental Rail Safety Management System (SMS), setting out general criteria for suspending, revoking and recovering qualifications following a human error, depending on its severity. |
| **Final recipient:** **Continental Rail** |
| **Measures adopted by the final recipient (reported to AESF on 16/11/2016):** |
| In addition to the report request sent to Continental (15/11/16), the **AESF** has published, in addition, the TECHNICAL RECOMMENDATION 4/2016. ACTIONS RELATED TO THE QUALIFICATION CERTIFICATES OF RAILWAY PERSONNEL AFTER EVENTS INVOLVING HUMAN ERROR. |

1. This regulation has been the subject of partial amendments pursuant to the following: Royal Decree 918/2010 of 16 July; Royal Decree 641/2011 of 9 May; Royal Decree 776/2011 of 3 June; Royal Decree 623/2014 of 18 July, Royal Decree 664/2015 of 17 July and Royal Decree 1006/2015 of 6 November. [↑](#footnote-ref-1)
2. It was partially amended and repealed by several subsequent directives, until its complete repeal by Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety, which has still not been transposed into Spanish law. [↑](#footnote-ref-2)