



**ANNUAL REPORT**

**2017**

**on the investigation of Public Railway Network accidents and incidents**



**Rail Accident Investigation Commission – July 2018**

**Rail Accident Investigation Commission – CIAF**

**Ministry of Public Works**

**Government of Spain**

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## List of abbreviations used

|  |  |
| --- | --- |
| **AESF:** | National Railway Safety Agency |
| **CIAF:** | Railway Accident Investigation Commission |
| **DGF:** | Directorate-General for Railways *(extinct, succeeded by the AESF in its functions as the national railway safety authority)* |
| **EUAR:** | European Union Agency for Railways *(formerly known as the ERA)* |
| **NIB:** | National investigation bodies *(generic name given, in the context of the European Union, to the bodies analogous to the CIAF in each Member State)* |
| **MGN:** | Metre-gauge network *(former FEVE network)* |
| **RFIG:** | Public Railway Network |
| **SMS:** | Safety management system |

# 1. INTRODUCTION

## 1.1 Purpose and scope

The Rail Accident Investigation Commission (Comisión de Investigación de Accidentes Ferroviarios: CIAF) submits its annual report for 2017. This report has been prepared in accordance with the obligation laid down in the European Railway Safety Directives (the current Directive (EU) 2016/798 and the previous Directive 2004/49/EC), according to which each Member State is required to publish an annual report summarising the investigations conducted by its national investigation body. This obligation is included in **Royal Decree 623/2014 of 18 July regulating the investigation of rail accidents and incidents and the Rail Accident Investigation Commission**. Article 15.7 of that instrument states as follows:

*‘The Commission shall, before 30 September, publish a report giving an account of the investigations conducted during the previous year, the safety recommendations published, and also the information received regarding the level of implementation of measures adopted in accordance with the recommendations issued previously.*

*The Chair of the Commission shall, on a yearly basis, submit the report, as approved by the Plenary Session, to the Ministry of Public Works, to be passed on to the competent committees of the Chamber of Deputies and the Senate. A copy of the report shall also be submitted to the authority responsible for safety and the European Railway Agency.’*

This report contains (in section 4.2) the events occurring on the Public Railway Network (Red Ferroviaria de Interés General: RFIG) in 2017 for which the CIAF decided to open an investigation (11 of a total of 67 notified events). It also provides (in section 4.4) a summary (with conclusions and recommendations) of the investigations completed during the course of 2017 (4 regarding events which occurred in 2015 and 6 regarding events from 2016).

It should be pointed out that, as it contains only those cases in which the CIAF considered it appropriate to begin an investigation, **this document is not, in any event, representative of the country’s rail accident rate**.

Lastly, a summary is provided of the recommendations issued by the CIAF in 2017 (22 in total, see section 7.1) and the degree to which the recommendations have been implemented and complied with (9 in total, see section 7.2), based on information provided by the Spanish national safety authority (the National Railway Safety Agency – AESF).

This document is the tenth report produced since the CIAF was established and it was prepared within the time frame established by the above-mentioned legislation. The period covered is the 2017 calendar year, from 1 January to 31 December, both for events investigated and for investigations concluded, and also as regards compliance with recommendations.

## 1.2 Legislation affecting the work of the Rail Accident Investigation Commission

The Rail Accident Investigation Commission (CIAF) was established in 2007 under Title III of the **Regulations on Traffic Safety on the Public Railway Network (Royal Decree 810/2007[[1]](#footnote-2), of 22 June, published in the Official Gazette of the Spanish State (BOE), No 162, of 7 July)**.

The regulations adapt Spanish railway legislation, as regards the investigation of railway accidents, to the provisions of European Directive 2004/49/EC[[2]](#footnote-3). With Royal Decree 810/2007, the part of the Railway Sector Regulations (Royal Decree 2387/2004, of 30 December, BOE (Official Gazette) No 315, of 31 December) relating to the investigation of accidents was repealed and replaced. The Railway Sector Act in force at the time (Law 39/2003, of 17 November, BOE (Official Gazette) No 276, of 18 November) made no provision for the existence of the CIAF and it was therefore amended by means of Additional Provision 11 and Transitional Provision 8 of Law 1/2014, of 28 February, to protect part-time employees and provide for other urgent economic and social measures.

**Royal Decree 623/2014, of 18 July, regulating the investigation of rail accidents and incidents and the Rail Accident Investigation Commission (published in the BOE (Official Gazette), No 175, of 19 July)** has been the basic legislation regulating the CIAF since 2014. That decree implements the provisions of the Railway Sector Act 2003 (Ley del Sector Ferroviario 39/2003) and more accurately defines and delimits the role of the CIAF, and replaces and repeals those parts of the Safety Regulations (Royal Decree 810/2007) concerning the investigation of railway accidents (Title III and Annex V).

On 1 October, the current **Railway Sector Act (Law 38/2015, of 29 September, on the Railway Sector, published in the BOE (Official Gazette), No 234, of 30 September)**, which repeals and replaces the earlier Law 39/2003, entered into force. That law has a chapter (Chapter IV of Title V) specifically dedicated to regulating the investigation of rail accidents and incidents, which contains and consolidates the provisions of earlier legislation (especially as regards the composition of the CIAF, the appointment of its members, its mandate and its independence). Since its entry into force, **Law 38/2015 has, along with Royal Decree 623/2014, been the basic legislation governing the composition and activities of the Railway Accident Investigation Commission**.

The most notable regulatory development in 2017 was that, from 19 January, the new **Rail Traffic Regulations (approved by Royal Decree 664/2015, of 17 July)** began to apply in full, once the 18-month adaptation period provided for in their sole transitional provision has expired. At that point, the 1992 RENFE General Traffic Regulations, the Specific Traffic Rules (Normas Específicas de Circulación: NEC) of the Madrid-Seville high-speed line, the Technical and Operating Instructions (Prescripciones Técnicas y Operativas: PTO) for high-speed lines and the FEVE Train Traffic Regulations ceased to have effect.

Set out below are the regulatory provisions relevant to the CIAF which entered into force during the course of 2017:

*Traffic regulations:*

* Order FOM/2015/2016 of 30 December (BOE (Official Gazette) 19/1/2017), adopting the Official Catalogue of Railway Traffic Signals on the Public Railway Network.
* Decision 1/2017 of the AESF creating guidance sheets to assist with the application of the Rail Traffic Regulations (RCF). The following guidance sheets were published in 2017:
  + F-RCF-01/2017: Carrying out work on safety installations
  + F-RCF-02/2017: Traffic instructions in the event of telephonic blocking due to abnormality at intermediate stations without a traffic manager

*Safety provisions:*

* Decision 5/2017 of the AESF announcing round-table meetings to coordinate and exchange experiences with regard to railway safety

*Provisions regarding railway lines:*

* Circular-Decision 2/2017 of the AESF, on national technical regulations relating to the Infrastructure, Energy, PRM and Control, Command and Signalling Technical Specifications for Interoperability and the bodies in charge of their verification

*Railway personnel provisions:*

* Decision 4/2017 of the AESF, establishing the annual calendar of examinations for the driver’s licence and diploma and the criteria for requesting other examination dates.

*Provisions regarding vehicles and their maintenance:*

* Decision of 10 May 2017 of the Management of the AESF, approving the update of the current version of ASFA Digital in Annex C, References to Legislation, of the Decision of 10 July 2009, of the Directorate-General for Railway Infrastructure, approving the ‘Technical Specification on the Approval of Railway Rolling Stock: Locomotives’.
* Decision of 10 May 2017 of the Management of the AESF, approving the update of the current version of ASFA Digital in Annex C, References to Legislation, of the Decision of 10 July 2009, of the Directorate-General for Railway Infrastructure, approving the ‘Technical Specification on the Approval of Railway Rolling Stock: Self-propelled Units’.
* Circular-Decision 3/2017 of the AESF, explaining the tools and works machinery referred to in section 1.1 of the Technical Specification on the Approval of Auxiliary Rolling Stock.

*AESF recommendations:*

* Technical Recommendation 1/2017 of the AESF on the distance between internal faces of wheels of metre-gauge vehicles.
* Technical Recommendation 2/2017 of the AESF on driver communications in the event of accidents or incidents.
* Technical Recommendation 3/2017 of the AESF on authorisation of the placing in service of vehicles not in accordance with the technical specifications for interoperability for rolling stock and the use of uncertified interoperability components.
* Technical Recommendation 4/2017 of the AESF on juridical recording units.
* Technical Recommendation 5/2017 of the AESF on track crossings between platforms for passengers.
* Technical Recommendation 6/2017 of the AESF on psychophysical examinations of railway personnel with a result of ‘temporarily unfit’.
* Technical Recommendation 7/2017 of the AESF on the communication of safety improvement proposals and information about possible risks within railway undertakings.

It should be emphasised that Technical Recommendation 2/2017 of the AESF has its origin in recommendations made by the CIAF, more specifically in the second recommendation for event 46/15, appearing in section 4.4.2.2 of this report.

## 1.3 Rationale behind accident and incident investigation and its objectives

According to the provisions of Article 4.4 of the Royal Decree regulating the investigation of rail accidents (Royal Decree 623/2014), the purpose of investigating rail accidents and incidents is to determine their causes and clarify the circumstances in which they occur, formulating, where appropriate, the relevant safety recommendations in order to improve accident prevention and increase rail transport safety.

**Such 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 the railway accident and incident investigation body in 2007. At the start, it investigated all accidents resulting in at least one fatality, in accordance with the classification of events established at that time by Spanish legislation.

Subsequently, with the new definitions of accidents and incidents provided by subsequent legislation (Royal Decree 810/2007, approving the Safety Regulations, and, subsequently, Royal Decree 623/2014, regulating the investigation of accidents) and based on acquired experience, the Commission increasingly focused its investigations on those events from which relevant lessons for improving rail safety could be drawn, regardless of the number of casualties. For that reason, **the accident and casualty figures appearing 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) is recorded in the relevant technical report, which contains data relating to the event, the investigations carried out, the conclusions and, where appropriate, the recommendations made. Those investigation reports are made public on the Commission’s website.

## 1.4 CIAF Activities

### 1.4.1 Plenary Meetings

In 2017, there were eleven ordinary plenary meetings of the CIAF: once per month, except in August.

At these meetings, the Chair, having heard the opinions of the members, decides which events are to be investigated from among those notified to the CIAF (or which it becomes aware of through other channels) in the period that has elapsed since the last meeting. Serious events, the investigation of which is mandatory, are excluded.

The technical reports on the events investigated, prepared by the investigators responsible, are also presented. Where appropriate, the plenary meeting approves them and makes the relevant safety recommendations, with a view to proposing measures which, as far as possible, prevent the event from recurring. After its approval, the final report is sent to the parties concerned, in addition to being made public.

Furthermore, at these sessions it is also decided whether it is advisable to prepare a ‘preliminary examination’, which is a document prepared by the CIAF to serve as a basis for determining whether or not an event is to be formally investigated. The plenary meeting decided to prepare four such preliminary examinations regarding events occurring in 2017.

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

In 2017, the plenary meeting issued **67 decisions** and **10 resolutions**. All of the decisions for that year referred to the decision to investigate, or not, the events submitted for consideration. As far as the resolutions are concerned, they all relate to the approval of the final reports on the events investigated (6 events occurring in 2016 and 4 occurring in 2015).

### 1.4.2 Attendance at meetings of the European network of investigation bodies (NIB Network)

The Commission forms part of the European network of national investigation bodies (NIB), set up within the European Union Agency for Railways (EUAR). The NIB network meets periodically (three times in each of the last few years), at offices of the EUAR in the French cities of Lille and Valenciennes. As a member of the group, the CIAF attends all of the ordinary meetings it holds and occasionally other additional meetings or working groups which the network considers it appropriate to arrange.

The NIB network seeks to standardise the investigation of railway accidents and incidents, with a view to improving the exchange of information and experience between European countries. It also serves as a forum for sharing information and best practice between the European investigation bodies. Furthermore, it guides its members in the application of the criteria laid down in the Railway Safety Directives. Occasionally, joint meetings are held between the network of investigation bodies and the equivalent network of Member States’ railway safety agencies (the AESF in the case of Spain), with the same objective of coordinating criteria and exchanging information and experience.

The CIAF attended the three NIB network meetings held in 2017: the 33rd, which took place in Lille on 22 and 23 March; the 34th, held in Valenciennes on 17 and 18 May; and the 35th, also held in Valenciennes, on 22 and 23 November. The last two meetings included joint sessions with the network of national railway safety authorities.

### 1.4.3 Other activities

Between 6 and 9 November, the ‘6th Rail Human Factor Conference 2017’, organised by the RSSB (Rail Safety and Standards Board, a British body dedicated to railway safety), Network Rail (the British railway infrastructure manager) and the University of Nottingham, was held in London. It was a series of conferences on the human factor in rail, including subjects related to the influence of the human factor on railway safety and accidents, which was of particular relevance to the work of the CIAF. For that reason, the CIAF sent one of its members to the series.

Also, in the autumn of 2017, the European Union Agency for Railways, at the request of the European Commission, began a process of assessment of the Spanish railway system, in order to analyse the degree of compliance with the different European regulations on railway safety and interoperability. That process included visits, meetings and the exchange of various kinds of information between members of the EUAR and national bodies, infrastructure managers, rail transport companies and other actors in the sector in Spain. The CIAF was one of the Spanish bodies included in the assessment and, as such, exchanged information with the EUAR’s assessors in the month of October, holding meetings with them in Madrid, from 14 to 16 November. The results of that process of assessment of the CIAF will be included in the general report on the Spanish railway sector, which will be issued by the EUAR probably during the course of 2018.

# 2. ORGANISATION OF THE RAIL ACCIDENT INVESTIGATION COMMISSION

The CIAF was established on 11 December 2007 as a specialist collegial body attached to the Ministry of Public Works through its sub-secretariat and is composed of the chair, the plenary and the secretariat. The CIAF enjoys complete operational independence in relation to any other actor in the railway sector and its staff may not accept or request instructions from any public or private entity.

The plenary session of the CIAF is made up of the chair, five members (one of them acting as deputy chair) and the secretary (with the right to speak but not to vote).

The Commission currently has four head technical investigators, attached to the secretariat, who are in charge of conducting the investigations and preparing the reports that are submitted to the plenary for approval. The level of staffing is expected to increase in the near future.

Furthermore, the CIAF may, if it considers it advisable, work with external experts specialising in specific fields relevant to certain specific investigations.

**CHAIR**

**PLENARY**

**Composed of the chair, the secretary and five members (one acting as deputy chair)**

* **MEMBER – EXPERT ON RAILWAY INFRASTRUCTURE**
* **MEMBER – EXPERT ON RAILWAY ROLLING STOCK**
* **MEMBER – EXPERT ON RAILWAY SIGNALLING AND COMMUNICATIONS**
* **MEMBER – EXPERT ON RAILWAY SAFETY AND TRAFFIC**
* **MEMBER – EXPERT ON OPERATING RAILWAY SERVICES**

**SECRETARY**

**HEAD INVESTIGATORS**

**SUPPORT STAFF**

**EXPERTS**

*Current organigram of the CIAF*

During the course of 2107, there was a new chair and four new members. The chair was replaced in accordance with article 73 of Law 38/2015 on the Railway Sector.

The new chair left a position as member vacant, which was filled in May with the appointment of a new member. Furthermore, the term of office of three other members expired in October and new members were appointed.

# 3. APPLICABLE LEGISLATION FOR THE INVESTIGATIVE PROCESS

The Commission, in order to carry out its work, has specific regulations concerning the general investigation procedure. The ‘**Procedure for the technical investigation of railway accidents and incidents’**, which entered into force on 30 June 2015, applies to all of the investigations started in 2017. The same procedure was applied to all of the investigations concluded in 2017, as they were all started after it entered into force.

This procedure unified those which existed previously and adapted them to the new regulations established by Royal Decree 623/2014.

# 4. ACCIDENT AND INCIDENT INVESTIGATION

## 4.1 Classification of events

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

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

***‘Serious accident:*** *any collision or derailment of trains resulting in 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 regulations or on safety management. Major damage is understood to be damage the cost of which can be immediately assessed by the investigation body to be 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 other accidents or incidents which, while not covered by that definition, may yield lessons capable of improving railway safety. When it comes to deciding whether or not to investigate such events, the CIAF will weigh up the following factors:

*1. The seriousness 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 railway safety.*

*4. Requests from the infrastructure managers, railway undertakings or the safety authority.’*

## 4.2 Events occurring in 2017 for which an investigation was initiated

### 4.2.1 Distribution by network and type

Of the 63 events notified in 2017 (1 serious accident, 52 accidents, 9 incidents and 1 suicide), it was decided to investigate 11: 10 occurred on the conventional Iberian-gauge railway network managed by Adif (1 serious accident, 4 accidents and 5 incidents) and 1 accident occurred on the high-speed network, managed by Adif-AV. The distribution by network is 91% and 9% respectively.

In addition to the 63 notified events, the CIAF was made aware, by other means, of a further 4 events (3 derailments and a signal overrun), which, given their minor importance, it was decided not to investigate, nor were they assigned a file number.

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

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Network** | **Serious accidents** | **Accidents** | | **Incidents** | | | |  |  |
| **Collision with an obstacle** | **Derailment** | **Accident at level crossing** | **Excess speed** | **Poorly prepared route** | **Runaway stock** | **Near miss** | **Total** | **Total (%)** |
| Adif (conventional network) | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 10 | 91 |
| Adif (high-speed) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| Total | **1** | **4** | **1** | **1** | **1** | **1** | **2** | 11 | 100 |
| Total (%) | **9%** | **36%** | **9%** | **9%** | **9%** | **9%** | **18%** | 100% |  |

Of the total, 36% of these events were accidents due to derailment; 18% were near misses; and the rest of the events investigated represented 9% of each type (collision with an obstacle, accident at a level crossing, excess speed, poorly prepared route, runaway stock).

### 4.2.2 Monthly distribution

The average number of events investigated each month was 0.92. That average is the same as that for the previous year, 2016 (0.92), and consolidates the falling trend in the number of investigations in recent years (1.25 in 2015 and 1.16 in 2014, compared to nearly 2 investigations per month in previous years). This reduction is in line with that seen in other European investigation bodies: the tendency is to concentrate investigative efforts on a smaller number of events, while analysing their causes in greater depth.

**Monthly distribution of accidents and incidents investigated**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Accidentes graves** | **Accidentes** | | **Incidentes** | | | |  |
| **TIPOLOGÍA**  **MES** | **Colisión con obstáculo** | **Descarrila- miento** | **Accidente en paso a nivel** | **Exceso de velocidad** | **Itinerario mal dispuesto** | **Escape de material** | **Conato de colisión** | **Total** |
| Enero |  | 1 |  | 1 |  |  |  | **2** |
| Febrero |  |  | 1 |  |  |  |  | **1** |
| Marzo |  |  |  |  |  |  | 1 | **1** |
| Abril |  |  |  |  |  |  |  |  |
| Mayo |  | 2 |  |  |  |  |  | **2** |
| Junio |  |  |  |  |  |  |  |  |
| Julio | 1 | 1 |  |  |  | 1 |  | **3** |
| Agosto |  |  |  |  | 1 |  | 1 | **2** |
| Septiembre |  |  |  |  |  |  |  |  |
| Octubre |  |  |  |  |  |  |  |  |
| Noviembre |  |  |  |  |  |  |  |  |
| Diciembre |  |  |  |  |  |  |  |  |
| **Total** | **1** | **4** | **1** | **1** | **1** | **1** | **2** | **11** |

### 4.2.3 Casualty rate for the events

In all of the 2017 events (serious accident, accidents and incidents) which it was decided to investigate, there was one fatality, seven serious injuries and 58 minor injuries.

The following table shows their distribution by network and event classification:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Adif (Red convencional)** | | | **Adif (Red alta velocidad)** | | | **TOTAL** | | |
| **Clasificación** | **Tipo** | **Número de sucesos** | **Víctima mortal** | **Herido grave** | **Herido leve** | **Víctima mortal** | **Herido grave** | **Herido leve** | **Víctima mortal** | **Herido grave** | **Herido leve** |
| **Accidente grave** | Colisión con obstáculo | 1 |  | 7 | 52 |  |  |  | 0 | 7 | 52 |
| **Total ACCIDENTE GRAVE** | | **1** | **0** | **7** | **52** | **0** | **0** | **0** | **0** | **7** | **52** |
| **Accidente** | Descarrilamiento | 4 |  |  |  |  |  |  | 0 | 0 | 0 |
| Accidente en paso a nivel | 1 | 1 |  |  |  |  |  | 1 | 0 | 0 |
| **Total ACCIDENTE** | | **5** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** |
| **Incidente** | Exceso de velocidad | 1 |  |  |  |  |  |  | 0 | 0 | 0 |
| Itinerario mal dispuesto | 1 |  |  |  |  |  |  | 0 | 0 | 0 |
| Escape de material | 1 |  |  |  |  |  |  | 0 | 0 | 0 |
| Conato de colisión | 2 |  |  |  |  |  |  | 0 | 0 | 0 |
| **Total INCIDENTE** | | **5** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Total GENERAL** | | **11** | **1** | **7** | **52** | **0** | **0** | **0** | **1** | **7** | **52** |

### 4.2.4 Average preparation time of the reports

As will be seen below, 10 investigations were completed in 2017: 6 for events occurring in 2016 and 4 from 2015. 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 with an obstacle** | **Train collision** | **Derail-ment** | **Regulatory infringement** | **Near miss** | **Total** |
|
| 14 |  |  | 1 |  | 1 | **2** |
| 15 |  |  |  |  | 1 | **1** |
| 16 | 1 |  |  |  | 1 | **2** |
| 18 |  | 1 |  |  |  | **1** |
| 19 |  |  |  | 1 |  | **1** |
| 20 |  |  | 1 |  |  | **1** |
| 21 | 1 | 1 |  |  |  | **2** |
| **Total** | **2** | **2** | **2** | **1** | **3** | **10** |
| **Average** | **18** | **19** | **17** | **19** | **15** | **17** |

The average time taken by the investigations concluded in 2017 was 17 months. Of the investigations conducted, 50% were completed in that or a shorter time frame.

### 4.2.5 Events investigated in 2017

#### 4.2.5.1 Preliminary examinations

To support decision-making, in 2010, the CIAF, in some cases, began carrying out a preliminary analysis of the main aspects and circumstances of certain events. This analysis has been termed preliminary examination and it is carried out in order to examine in greater detail the circumstances causing the event and assess whether a formal examination, by means of a full investigation process, would be relevant when it comes to contributing railway safety improvements, which is the ultimate aim of the CIAF.

These preliminary examinations are carried out by the secretariat of the CIAF, or by one of the members, and submitted to the plenary meeting as a basis for deciding whether or not to investigate a particular event. They are not as exhaustive as the final reports for those events which are investigated, but they go into relevant aspects in depth, without making recommendations. However, in some cases, the actors involved are informed of the conclusions reached. Where the preliminary examination advises it in its conclusions, the event in question goes on to be the subject of an in-depth investigation.

It was decided to begin preliminary examinations of four events which occurred in 2017. As at 31 December 2017, all of those preliminary examinations were still ongoing and, therefore, the decision regarding the possible formal investigation of those events was still pending.

#### 4.2.5.2 Formal investigations

During the course of 2017, the CIAF decided to begin the formal investigation of 11 events (one serious accident, five accidents and five incidents). As at 31 December 2017, none of the investigations had been concluded.

Below are two tables containing the main identifying data for the events analysed by the CIAF in 2017: one containing the events for which a preliminary examination was initiated and the other containing events for which a formal investigation was initiated.

There is also a map showing the geographical distribution of the events under investigation.

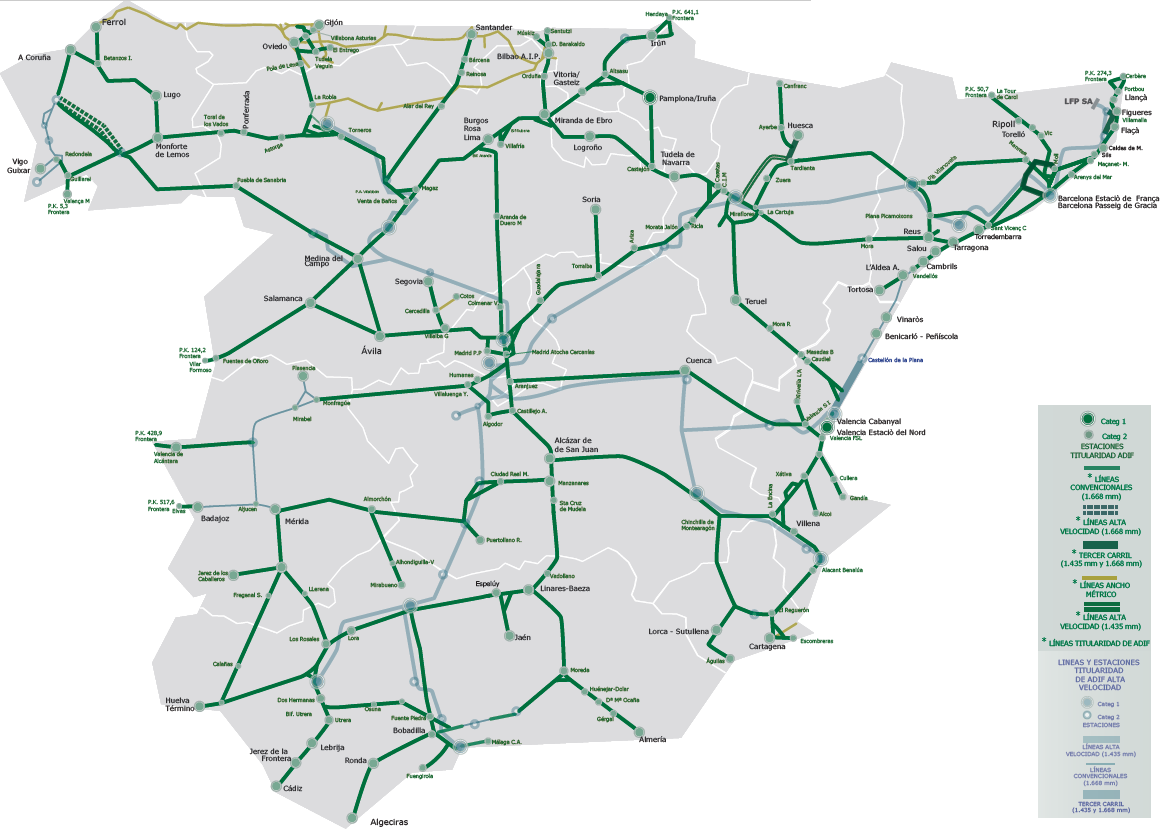
**PRELIMINARY EXAMINATIONS OF 2017 EVENTS**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EXPTE. Nº** | **FECHA** | **ESTACIÓN MÁS PRÓXIMA** | **MUNICIPIO** | **PROVINCIA** | **LÍNEA** | **P.K.** | **RED** | **OPERADOR** | **VÍCTIMA MORTAL** | **HERIDO GRAVE** | **HERIDO LEVE** | **CLASIFI-CACIÓN** | **TIPO** | **LUGAR** | **ESTADO** |
| 42/2017 | 04/09/2017 | Montabliz | Bárcena de Pie de Concha | Cantabria | 160 Palencia-Santander | 444,676 | ADIF | COMSA RAIL |  |  |  | ACCIDENTE | DESCARRI-LAMIENTO | PLENA VÍA | PENDIENTE |
| 52/2017 | 14/11/2017 | Las Segadas | Ribera de Arriba | Asturias | 130 Venta de Baños-Gijón Sanz Crespo | 132,300 | ADIF | RENFE VIAJEROS | 1 |  |  | ACCIDENTE | ARROLLAMIENTO DE PERSONA | ESTACIÓN | PENDIENTE |
| 55/2017 | 29/11/2017 | Arahal | Arahal | Sevilla | 422 Bif. Utrera-Fuente de Piedra | 20,350 | ADIF | RENFE VIAJEROS |  | 2 | 27 | ACCIDENTE | DESCARRI-LAMIENTO | PLENA VÍA | PENDIENTE |
| 63/2017 | 30/12/2017 | Legazpi | Legazpi | Gipuzkoa | 100 Madrid Chamartín-Hendaya | 561,120 | ADIF | RENFE VIAJEROS | 1 |  |  | ACCIDENTE | ARROLLAMIENTO DE PERSONA | ESTACIÓN | PENDIENTE |

**INVESTIGATIONS INITIATED INTO 2017 EVENTS**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EXPTE. Nº** | **FECHA** | **ESTACIÓN MÁS PRÓXIMA** | **MUNICIPIO** | **PROVINCIA** | **LÍNEA** | **P.K.** | **RED** | **OPERADOR** | **VÍCTIMA MORTAL** | **HERIDO GRAVE** | **HERIDO LEVE** | **CLASIFI-CACIÓN** | **TIPO** | **LUGAR** |
| 01/2017 | 06/01/2017 | Nanclares de la Oca | Iruña de Oca | Álava | 100 Madrid Chamartín-Hendaya | 477,265 | ADIF | RENFE VIAJEROS |  |  |  | ACCIDENTE | DESCARRI-LAMIENTO | PLENA VÍA |
| 07/2017 | 15/01/2017 | Arahal | Arahal | Sevilla | 422 Bif. Utrera-Fuente de Piedra | 27,270 | ADIF | RENFE VIAJEROS |  |  |  | INCIDENTE | EXCESO DE VELOCIDAD | ESTACIÓN |
| 12/2017 | 13/02/2017 | Torrijos | Santo Domingo-Caudilla | Toledo | 500 Bif. Planetario-Valencia de Alcántara | 90,594 | ADIF | RENFE VIAJEROS | 1 |  |  | ACCIDENTE | ACCIDENTE EN PASO A NIVEL | PLENA VÍA |
| 20/2017 | 23/03/2017 | Madrid Chamartín | Madrid | Madrid | 200 Madrid Chamartín-Barcelona França | 0,458 | ADIF | RENFE VIAJEROS |  |  |  | INCIDENTE | CONATO DE COLISIÓN | ESTACIÓN |
| 24/2017 | 12/05/2017 | Brazatortas | Brazatortas | Ciudad Real | 010 Madrid Puerta. de Atocha-Sevilla Santa Justa | 226,007 | ADIF-AV | RENFE VIAJEROS |  |  |  | ACCIDENTE | DESCARRI-LAMIENTO | ESTACIÓN (Puesto de banalización) |
| 25/2017 | 23/05/2017 | Inoso-Oiardo | Urkabustaiz | Álava | 700 Casetas-Intermodal Abando Indalecio Prieto | 183,815 | ADIF | LOW COST RAIL |  |  |  | ACCIDENTE | DESCARRI-LAMIENTO | PLENA VÍA |
| 30/2017 | 13/07/2017 | Capçanes | Capçanes | Tarragona | 210 Miraflores-Tarragona | 544,649 | ADIF | RENFE MERCANCÍAS |  |  |  | ACCIDENTE | DESCARRI-LAMIENTO | PLENA VÍA |
| 35/2017 | 28/07/2017 | Barcelona França | Barcelona | Barcelona | 200 Madrid Chamartín-Barcelona França | 685,400 | ADIF | RENFE VIAJEROS |  | 7 | 52 | ACCIDENTE GRAVE | COLISIÓN CON OBSTÁCULO | ESTACIÓN |
| 38/2017 | 12/08/2017 | Puebla de Sanabria | Puebla de Sanabria | Zamora | 822 Zamora-A Coruña | 106,871 | ADIF | RENFE VIAJEROS |  |  |  | INCIDENTE | ITINERARIO MAL DISPUESTO | ESTACIÓN |
| 40/2017 | 21/08/2017 | Lleida Pirineus | Lleida | Lleida | 200 Madrid Chamartín-Barcelona França | 1,144 | ADIF | TRANSITIA RAIL |  |  |  | INCIDENTE | CONATO DE COLISIÓN | ESTACIÓN |
| 43/2017 | 25/07/2017 | Torralba | Medinaceli | Soria | 200 Madrid Chamartín-Barcelona França | 157,544 | ADIF | FERROVIAL RAILWAY |  |  |  | INCIDENTE | ESCAPE DE MATERIAL | ESTACIÓN |

**ACCIDENTS AND INCIDENTS INVESTIGATED IN 2017**



Map: Declaration of the Adif Network 2018 – state of the network as at 31 January 2018

* **Collision with an obstacle (A)**
* **Accident at a level crossing (A)**
* **Derailing (A)**
* **Near collision (I)**
* **Loss of material (I)**
* **Excess speed (I)**
* **Badly prepared route (I)**

|  |  |
| --- | --- |
| Categ 1 | Cat. 1 |
| Categ 2 | Cat. 2 |
| Estaciones titularidad adif | Adif-owned stations |
| Lineas convencionales (1.668 mm) | Conventional lines (1668 mm) |
| Lineas alta velocidad (1.668 mm) | High-speed lines (1668 mm) |
| Tercer carril (1.435 mm y 1.668 mm) | Third rail (1435 mm and 1668 mm) |
| Lineas ancho métrico | Metre-gauge lines |
| Lineas alta velocidad (1.435 mm) | High-speed lines (1435 mm) |
| Lineas titularidad de Adif | Adif-owned lines |
| Lineas y estaciones titularidad de Adif alta velocidad | Adif AV-owned lines and stations |

## 4.3 Analysis by type of 2017 event investigated

### 4.3.1 Serious accident

Only one serious accident occurred and was notified in 2017: the collision with the buffer stop at Barcelona’s França Station by a suburban train, resulting in 7 serious injuries and 52 minor injuries.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | COLLISION WITH AN OBSTACLE | 35/17 | Barcelona | 200 Madrid Chamartín-Barcelona França Station | 685.400 |

A summary containing the basic data for this serious accident is provided below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **35/17** | 28/07/2017 | 200 Madrid Chamartín-Barcelona França | Adif | Renfe Viajeros | Station |
| **Summary:** | | | | | |
| C:\Users\avfernandez\Desktop\BARCELONA-FRANÇA\Fotos Adolfo 28-07-17\DSC00790.JPGSerious accident due to a collision with an obstacle, occurring on 28/07/2017 at 07:24, at Barcelona’s França Station (685+400 of line 200 Madrid-Barcelona). The Rodalies 25502 train collided with the buffer stop on the station’s line 11, at a speed of 30 km/h.  There were numerous injuries (7 serious and 52 minor), as well as significant damage to the train. | | | | | |

### 4.3.2 Accident

#### 4.3.2.1 Derailment

A total of 12 accidents due to derailment were notified to the CIAF in 2017. Of those, it was decided to investigate four, while, as at 31 December 2017, a decision is still pending in the case of two others, as they are the subject of preliminary examinations. In all of the derailments notified, there were 2 serious injuries and 27 minor injuries.

As regards the four derailments for which an investigation was initiated, three of them took place on open track and the other at the points of a crossover.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | DERAILMENT | 01/17 | Álava | 100 Madrid Chamartín-Hendaya | 477.265 |
| 24/17 | Ciudad Real | 010 Madrid P. Atocha-Sevilla Sª Justa | 226.007 |
| 25/17 | Álava | 700 Casetas-Inter.-Abando I. Prieto | 183.815 |
| 30/17 | Tarragona | 210 Miraflores- Tarragona | 544.856 |

A summary containing the basic data for each of these accidents is provided below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **01/17** | 06/01/2017 | 100 Madrid Chamartín-Hendaya | Adif | Renfe Viajeros | Open track |
| **Summary:** | | | | | |
| C:\Users\jafcontreras\Desktop\CIAF Expedientes\2017\0117\Page-.pngOn 6 January 2017, a Renfe Viajeros long-distance passenger train (Irún-Vilar Formoso) derailed by 4 axles on open track, at kilometric point (KP) 477+265 of line 100 Madrid-Hendaya, between the stations of Nanclares-Langraiz and La Puebla de Arganzón. Three of the axles subsequently rerailed, but the remaining axle continued derailed for 1960 m. A rail broken into four pieces (track 1, left rail, KP 477+265) was detected, which is the most likely cause of the event.  No personal injuries occurred. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **24/17** | 12/05/2017 | 010 Madrid P. de Atocha-Sevilla Santa Justa | Adif-AV | Renfe Viajeros | Crossover |
| **Summary:** | | | | | |
| C:\Users\jafcontreras\Desktop\CIAF Expedientes\2017\2417\Page-19-Image-15.pngOn 12 May 2017, both wheels of the seventh carriage of the formation of AVE 00043 (Talgo rolling stock) derailed, after passing through the Brazatortas crossover (puesto de banalización: PB) (KP 226+007 of LAV 010 Madrid Puerta de Atocha-Sevilla Santa Justa).  The derailment was found to have been caused by a broken rail in the movable-point frog of turnout 514 at the PB.  No personal injuries occurred. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **25/17** | 23/05/2017 | 700 Casetas-Intermodal Abando Indalecio Prieto | Adif | Low Cost Rail | Open track |
| **Summary:** | | | | | |
| On 23 May 2017, freight train 90073 of the operator Low Cost Rail derailed by one axle of its fifth wagon, at KP 183+815 of line 700 Bilbao Abando Indalecio Prieto-Casetas, in the municipal area of Amurrio (Álava).  No personal injuries occurred. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **30/17** | 13/07/2017 | 210 Miraflores- Tarragona | Adif | Renfe Mercancías | Open track |
| **Summary:** | | | | | |
| On 13 July 2017, the 13th, 14th and 15th wagons of the formation of Renfe Mercancías train 55850 derailed, at KP 544+856 of line 210 Miraflores-Tarragona, between Guiamets and Marca-Falset. The train was not transporting dangerous goods and no personal injuries occurred.  The information available indicates that engineering works had been carried out at the location of the accident and it is uncertain whether, after those works, tension in the affected rails had been released (distortions of the track have been observed). | | | | | |

#### 4.3.2.2 Accidents at level crossings

In 2107, the CIAF was notified of a total of thirteen accidents at level crossings: three occurred at stations and ten on open track. People were involved in two of the accidents and road vehicles were involved in the remaining eleven. In all of the accidents at level crossings notified to the CIAF, there were 10 fatalities, 2 serious injuries and 16 minor injuries.

The CIAF decided to investigate one of them, which occurred on open track and was caused by a road vehicle.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **ACCIDENT** | **ADIF** | ACCIDENT AT LEVEL CROSSING | 12/17 | Toledo | 500 Bif. Planetario-Valencia de Alcántara | 90.594 |

A summary containing the basic data is provided below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **12/17** | 13/02/2017 | 500 Bif. Planetario-Valencia de Alcántara | Adif | Renfe Viajeros | Open track |
| **Summary:** | | | | | |
| Image_45_0On 13 February 2017, the Renfe Viajeros medium-distance train 17025 collided with a road vehicle at the type-A level crossing located at KP 90+594 of line 500 Bif. Planetario-Valencia de Alcántara, municipal area of Santo Domingo-Caudilla (Toledo).  The occupant of the vehicle was killed. | | | | | |

#### 4.3.2.3 Other accidents

During the course of 2017, the CIAF was also notified of a further 26 accidents for which an investigation was not initiated, although, as at 31 December 2017, a decision was still pending in the case of two of them, as they were the subject of preliminary examinations.

These accidents were of different types from those analysed in the preceding sections: 15 were injuries caused to persons by rolling stock (including the two accidents for which a decision is pending); 10 were train collisions with obstacles within the clearance gauge; and the remaining accident was a collision between trains. The 15 collisions with persons by rolling stock caused a total of 14 fatalities and 2 serious injuries. The collisions with obstacles caused a total of 3 serious injuries and 52 minor injuries and in the collision between trains there were 7 minor injuries.

Apart from the above, two other accidents were notified to the CIAF in 2017, which were possible collisions with persons resulting in death. However, in both cases, the preliminary judicial investigations ruled out the possibility of those deaths being attributable to the railway and, therefore, the CIAF decided not to investigate.

### 4.3.3 Incident

Of the incidents occurring during the course of 2017, nine were notified to the CIAF, of which it decided to investigate five. Of the five incidents investigated, two were near misses caused by an unauthorised signal overrun, one was due to excess speed, one was due to a poorly prepared route and the last one was due to runaway stock. All of them occurred at a station and none resulted in casualties.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **NETWORK** | **TYPE** | **FILE No.** | **PROVINCE** | **LINE** | **K.P.** |
| **INCIDENT** | **ADIF** | NEAR MISS | 20/17 | Madrid | 200 Madrid Chamartín-Barcelona Fra. | 0.458 |
| 40/17 | Lleida | 200 Madrid Chamartín-Barcelona Fra. | 1.144 |
| EXCESS SPEED | 07/17 | Seville | 422 Bif. Utrera-Fuente de Piedra | 27.270 |
| POORLY PREPARED ROUTE | 38/17 | Zamora | 822 Zamora-A Coruña | 106.871 |
| RUNAWAY STOCK | 43/17 | Soria | 200 Madrid Chamartín-Barcelona Fra. | 157.544 |

A summary containing the basic data for each of these incidents is provided below.

#### 4.3.3.1 Near miss

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **20/17** | 23/03/2017 | 200 Madrid Chamartín-Barcelona França | Adif | Renfe Viajeros | Station |
| **Summary:** | | | | | |
| On 23 March 2017, without authorisation, Renfe Cercanías train 31116 overran signal S1/10, indicating to stop, on leaving Madrid’s Chamartín Station. A near miss occurred with train 91963 (empty Renfe rolling stock) which was leaving from track 13. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **40/17** | 21/08/2017 | 200 Madrid Chamartín-Barcelona França | Adif | Transitia Rail / Renfe Viajeros | Station |
| **Summary:** | | | | | |
| On 21 August 2017, without authorisation, Transitia Rail freight train 90979 overran entrance signal number 11 at Lleida Station, when Renfe Viajeros medium-distance train 15622 was leaving from track 5. Both trains stopped and the former reversed back to the entrance signal.  No personal injuries occurred. | | | | | |

#### 4.3.3.2 Excess speed

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **07/17** | 15/01/2017 | 422 Bif. Utrera-Fuente de Piedra | Adif | Renfe Viajeros | Station |
| **Summary:** | | | | | |
| C:\Users\jafcontreras\Desktop\Pendientes\170508-170115-IP-Renfe_Image_34.bmpOn 15 January 2017, Malaga-Seville medium-distance train 13903, entered diverging track 2 of El Arahal Station (KP 27+270, line 422 Bif. Utrera-Fuente de Piedra) at excessive speed.  The operating centre had ordered the train to stop at El Arahal, for which the traffic manager set an entrance route via a side track. However, the driver maintains that the sequence of signals she saw indicated to enter by a through route and that she did not notice the diversion until she arrived at the station entrance. The section in which the event occurred has telephonic blocking and mechanical signalling; it does not have the ASFA system or electrical or electronic interlocking and, therefore, there are no records. | | | | | |

**4.3.3.3** **Poorly prepared route**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **38/17** | 12/02/2017 | 822 Zamora-A Coruña | Adif | Renfe Viajeros | Station |
| **Summary:** | | | | | |
| On 12 August 2017, between 4.00 and 7.30 a.m. a power failure occurred resulting in a loss of control and testing at Puebla de Sanabria Station (Zamora). For the duration of the fault, the traffic personnel had to operate two points (17 and 19) manually in order to allow a train to leave.  C:\Users\avfernandez\Documents\_MEMORIA ANUAL 2017\Sin título.jpgAfter the power had been restored, at 11.55 a route was set for Renfe long-distance train 154 to pass through on a direct track (track 1), with the turnouts in the normal position and the signals on clear.  However, when the train reached turnout 17, the turnout was in fact in the inverted position, diverting the train to track 5. The driver saw the position of the point and activated the emergency brake. The train passed through the turnouts at excessive speed, but with the emergency braking activated, and so, ultimately, it came to halt on track 5 without derailing. No damage to property or personal injuries occurred. | | | | | |

**4.3.3.3** **Runaway stock**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **43/17** | 25/07/2017 | 200 Madrid Chamartín-Barcelona França | Adif | Ferrovial Railway | Station |
| **Summary:** | | | | | |
| C:\Users\jafcontreras\Desktop\Pendientes\ilovepdf_extract_pdf_images (2)\171201-170725-IP_Ferrovial-070.jpgOn 25 July 2017, at 20.30, an isolated locomotive belonging to Ferrovial Railway overran the entrance signal at Torralba Station and the operating centre therefore ordered it to stop.  After it had stopped, the driver reported a fault with the brakes. Subsequently, the locomotive began to coast and the driver informed the operating centre that it was moving without any control over the automatic brakes of the traction.  After travelling around 8200 m, the driver managed to stop the locomotive on track 1 of Medinaceli Station, using the parking brake.  No personal injuries occurred. | | | | | |

## 4.4 Investigations of events concluded in 2017

The investigations of 10 events were concluded in 2017: four occurred in 2015, while the rest dated from 2016. The basic data and analysis by type of these events were provided in the 2016 and 2015 annual reports.

A table is given below containing the main identifying data for each of these 10 events, ordered by file number. The table is followed by a summary of the basic data, 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).

**EVENTS FOR WHICH INVESTIGATIONS WERE CONCLUDED IN 2017**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FILE No.** | **DATE** | **MUNICIPALITY (STATION)** | **PROVINCE** | **LINE** | **K.P.** | **NETWORK** | **OPERATOR** | **FA** | **SI** | **MI** | **CLASSIF.** | **TYPE** | **PLACE** | **RECS.** |
| 43/15 | 02/09/2015 | Noáin (Valle de Elorz) | Navarre | 710 Altsasu - Castejón de Ebro | 165.409 | ADIF | Renfe Mercancías |  |  |  | Accident | Collision with an obstacle | Open track | 1 |
| 46/15 | 05/10/15 | Tardienta | Huesca | 200 Madrid - Barcelona | 52.900 | ADIF | Continental Rail |  |  | 2 | Accident | Train collision | Station | 3 |
| 49/15 | 14/10/15 | Toro (Monte la Reina) | Zamora | 820 Medina del Campo - Zamora | 68.000 | ADIF | Renfe Viajeros |  |  |  | Incident | Regulatory infringement | Station | 5 |
| 58/15 | 20/11/15 | Monzón de Campos | Palencia | 160 Palencia - Santander | 305.197 | ADIF | Renfe Mercancías |  |  |  | Accident | Derail-ment | Open track | 2 |
| 04/16 | 25/01/16 | Elche/Elx (Elx Parc) | Alicante | 336 El Reguerón - Alacant Terminal | 20.346 | ADIF | Adif |  |  |  | Incident | Near miss | Station | 0 |
| 10/16 | 23/01/16 | Ascó | Tarragona | 210 Miraflores - Tarragona | 518.063 | ADIF | Transfesa Rail |  |  |  | Accident | Derail-ment | Station | 2 |
| 12/16 | 15/03/16 | Montroig del Camp | Tarragona | 600 Valencia - San V. de Calders | 247.490 | ADIF | Renfe Viajeros |  |  |  | Accident | Collision with an obstacle | Open track | 1 |
| 14/16 | 16/03/16 | Torrejón de Ardoz | Madrid | 200 Madrid - Barcelona | 23.000 | ADIF | Acciona Rail |  |  |  | Incident | Near miss | Station | 2 |
| 21/16 | 17/04/16 | Hernani | Gipuzkoa | 100 Madrid - Hendaya | 616.351 | ADIF | Renfe Mercancías |  |  | 5 | Accident | Train collision | Station | 4 |
| 36/16 | 18/07/16 | Boñar | León | 790 Aranguren - Asunción Universid. | 30.642 | ADIF (RAM) | Renfe Viajeros Ancho Métrico |  |  |  | Incident | Near miss | Station | 2 |

### 4.4.1 Serious accident

No investigation of any serious accident was concluded in 2017.

### 4.4.2 Accident

#### 4.4.2.1 Collision with an obstacle

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **43/15** | 02/09/2015 | 710 Altsasu-Castejón de Ebro | Adif | Renfe Mercancías | Open track |
| **Summary:** | | | | | |
| C:\Users\avfernandez\Documents\_MEMORIA ANUAL 2015\Plenos enero 2015 a junio 2016\20150922_Documentacion_88\20150922_Pleno88\Fichas\SN_02.09.15-Noain\Montaje\IMG_20150902_081845.jpgOn 2 September 2015, a Renfe Mercancías freight train transporting cars, travelling between the stations of Biurrun Campanas and Noaín (Navarre), collided with a rail (LWR), which got caught in the intermediate axle of the first wagon. The rail had been left on the platform in order to replace the one currently in place on that stretch. The collision took place at KP 165+409 of line 710 Altsasu-Castejón de Ebro and the rail was dragged for 15 km.  There were no personal injuries, but there was serious damage to the infrastructure. | | | | | |
| **Conclusion:** | | | | | |
| The event was caused by the end of a rail sticking protruding into the track gauge. It is not known what caused the rail to protrude onto the track, but it thought likely that it was caused by the rail being mishandled, or by an intentional act, as the ends of the rail were not properly secured. | | | | | |

|  |  |
| --- | --- |
| **Recipient** | **Recommendation** |
| Adif | **43/15-1** When it is foreseen that a spare rail placed next to an operative railway track will remain there for a significant period of time until it is used, the ends of the piece of rail must be properly secured. |

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| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **12/16** | 15/03/16 | 600 Valencia Nord-S. Vicenç de Calders | Adif | Renfe Viajeros | Open 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. That crumbling had been caused by heavy rain in the area in the preceding days.  The collision took place at KP 247+490 of line 600 Valencia - Sant Vicenç de Calders, on the Mont-Roig del Camp - Hospitalet de L’Infant (Tarragona) section. As a result of the collision, the train derailed by its first axle and ran on for a further 826 m before stopping. There were no fatalities or injuries, though three passengers had to be treated by emergency medical services. The front of the rail car motor and the track infrastructure (sleepers, securing elements, etc.) were damaged due to the trajectory of the derailed train. | | | | | |
| **Conclusion:** | | | | | |
| The accident occurred due to an infrastructure fault, when the partial collapse of the trench occurred, caused by earth and, especially, a large rock occupying the track centre, which caused the train to derail be colliding with an obstacle (the stones from the trench). | | | | | |

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| **Recipient** | **Recommendation** |
| Adif | **12/16-1** Analyse the possibility of stabilising the whole trench by applying a system deemed suitable. |

#### 4.4.2.2 Train collision

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| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **46/15** | 05/10/15 | 200 Madrid Chamartín-Barcelona França | Adif | Continental Rail | Station |
| **Summary:** | | | | | |
| On 5 October 2015, a Continental Rail locomotive collided with the rest of its formation when carrying out an inversion manoeuvre due to a change of direction at Tardienta Station (Huesca), located at KP 52+900 of line 200 Madrid-Barcelona.  The train had been parked on track 4 and the locomotive, once uncoupled from the train and isolated, carried out the inversion manoeuvre, during which, in the final movement, it collided with the end wagon of the parked rolling stock.  As a result, there were two minor injuries (the driver and the manoeuvre agent), as well as serious damage to the locomotive and the last wagon of the parked formation. | | | | | |
| **Conclusion:** | | | | | |
| The accident occurred due to human error on the part of the driving staff of freight train BAR 11/52, when carrying out the locomotive inversion manoeuvre and not correctly applying the locomotive’s brake. | | | | | |

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| **Recipient** | **Recommendations** |
| Continental Rail | **46/15-1** In training and retraining for driving staff, stress the obligation to drive, wherever possible, from the front cab when manoeuvring, in order to have a better overview of the operation. |
| Continental Rail | **46/15-2** In training and retraining for driving staff, stress the importance of transmitting information about an event to the traffic manager, as soon as possible and using the prescribed channels. |
| Continental Rail | **46/15-3** The recommendation of CIAF 28/15-2 is reiterated: A procedure should be drawn up and included in Continental Rail’s safety management system establishing general criteria for the suspension, revocation and restoration of authorisations after a human error, according to its seriousness, in order to achieve uniform treatment in the retraining process to enable the worker to return to post after an incident of this kind. |

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| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **21/16** | 17/04/16 | 100 Madrid-Hendaya | Adif | Renfe Viajeros / Renfe Mercancías | Station |
| **Summary:** | | | | | |
| On 17 April 2016, a Renfe Viajeros suburban train collided with the last wagon 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, protruding into the clearance of track 2.  As a result of the accident, five passengers sustained minor injuries and there was damage to the first carriage of the suburban train and the end wagon of the parked freight train. | | | | | |
| **Conclusion:** | | | | | |
| The accident occurred due to a fault in the circuit for track CVA4: the circuit did not detect the last wagon of the freight train, which was parked on it, overrunning the clearance post of tracks 2-4. The fact that the circuit in question was not occupied electrically allowed the interlocking to set a route via track 2 for the suburban train, even though the CVA4 points circuit was occupied. | | | | | |

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| **Recipient** | **Recommendations** |
| Adif | **21/16-1** In refresher courses given to staff involved in the operation of trains, insist on the need to verify, reliably, that electrical circuits on tracks which are little used are unoccupied. Also, insist on verifying the length of stabling tracks and of trains when parked on them. |
| Adif | **21/16-2** Establish an inspection plan for rust on railway network turnouts which provide access from general track to diverging track, checking, where necessary, the correct shunting of the track circuits, and cleaning them, where appropriate, in order to restore conditions enabling trains to operate safely. |
| Adif | **21/16-3** Within the Adif SMS, include excess rust on the track (mainly at turnouts on general and secondary tracks included in the interlocking) in the procedure ‘Monitoring the condition of the infrastructure and track (SGSC-PO-24.00.08)’, as another element to be checked and dealt with, where appropriate, in order to prevent possible shunting faults. |
| Adif | **21/16-4** Within the Adif SMS, include a procedure for monitoring and maintaining the track circuits which enable shunting problems to be detected, both when the circuit is unoccupied and when it is occupied (with train shunt applied). |

#### 4.4.2.3 Derailment

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| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **58/15** | 20/10/2015 | 160 Palencia-Santander | Adif | Renfe Mercancías | **Open track** |
| **Summary:** | | | | | |
| On 20 November 2015, a Renfe Mercancías train, which was transporting cars partially, derailed at KP 305+197 of line 160 Palencia-Santander, between the stations of Palencia and Monzón de Campos (Palencia).  The train was formed of a locomotive belonging to the company Renfe Mercancías and 28 Leks wagons (PMA car transporters) belonging to the company SEMAT, travelling from Pamplona to Muriedas (Cantabria).  The heating of the right-hand axle box of the second axle of wagon 24 caused the journal to melt (KP 303+340) and the derailment: first the left-hand wheel of the second axle of wagon 24 (KP 305+296) derailed, then the first axle of the same wagon, and then, when passing through the entrance turnouts of Monzón de Campos Station (KP 308+254), the second axle of wagon 23 and the first of wagon 25 derailed. The traffic manager on duty at Monzón de Campos Station noticed that the train had derailed and requested it to be stopped immediately, through the operating centre. The train’s locomotive came to a halt at KP 310+043.  No personal injuries occurred. | | | | | |
| **Conclusion:** | | | | | |
| The derailment occurred due to a technical fault in the rolling stock, when the temperature of the axle box rose, possibly on account of a tight wheel bearing. | | | | | |

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| **Recipient** | **Recommendation** |
| National Railway Safety Agency | **58/15-1** Require Transfesa to submit a new standardisation and assembly plan for the new axle boxes for type 66 axles for Leks wagons and ensure compliance with that plan. |
| Transfesa Rail | **58/15-2** Until the implementation of the new plan referred to in recommendation 58/15.1, whereby the current axle boxes fitted to the type 66 axles of Leks wagons will be replaced, intensify the maintenance of the existing axle boxes by establishing a complementary maintenance plan, in order to ensure that they function correctly. |

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| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **10/16** | 23/01/16 | 210 Miraflores- Tarragona | Adif | Transfesa Rail | Open track |
| **Summary:** | | | | | |
| On 23 January 2016, at 12.17, the freight train 97534, belonging to the company Transfesa, was travelling at 48 km/h along the main track at Ascó Station, Tarragona (KP 518+063 on line 210 Tarragona-Miraflores). At departure signal S1 (Zaragoza side) the first axle of wagon 18 of the train set derailed. The train carried on moving and 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 wagons and another, 120 m behind, with the remaining 9 wagons, the last six of which had derailed.  Serious damage was caused to the wagons and the infrastructure, but there were no personal injuries. | | | | | |
| **Conclusion:** | | | | | |
| The derailment occurred due to a fault with the infrastructure in the area of the accident, in particular on account of significant variations in camber (warping). | | | | | |

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| **Recipient** | **Recommendation** |
| Adif | **10/16-1** Given the high level of freight traffic on the section, combined with its accident rate, further consideration should be given to major action in the area, with a view to renewing the features of the infrastructure (drainage) and superstructure which enable trains to operate safely. |
| Adif | **10/16-2** Rigorous compliance on line 210, mainly on the Flix-Reus section, with the content of the SMS as regards the frequency of track testing and monitoring visits, both on foot and in the cab of train, acting accordingly, and at least until major action is not required to improve the section. |

### 4.4.3 Incident

#### 4.4.3.1 Regulatory infringement

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| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **49/15** | 14/10/15 | 820 Medina del Campo-Zamora | Adif | Renfe Viajeros | Station |
| **Summary:** | | | | | |
| On 14 October 2015, a Renfe Viajeros long-distance passenger train passed without stopping through Monte la Reina Station (Toro), located at KP 68+000 of line 820 Zamora-Medina del Campo.  That went against the traffic instructions in place, which required it to stop as a supplementary telephone block (Bloqueo Telefónico Supletorio: BTS) was in operation between the stations of Toro and Zamora (as works were under way to place new interlocking in service at Monte la Reina).  No damage to property or personal injuries resulted from the incident. | | | | | |
| **Conclusion:** | | | | | |
| The incident was caused by human on the part of the driving staff, by failing to comply with the traffic instructions establishing the supplementary telephone block between Toro and Zamora. | | | | | |

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| **Recipient** | **Recommendations** |
| Renfe Operadora | **49/15-1** In refresher courses given to driving staff, emphasise degraded or unusual situations such as the case of the supplementary telephone block. |
| Renfe Operadora | **49/15-2** Develop and implement the appropriate mechanisms to ensure that, before carrying out their duties, train drivers receive the notices affecting them, from those responsible for documentation for the different organisational areas. Middle managers must advise the train drivers, reminding them of the application of the traffic conditions included in those documents before carrying out their duties. |
| Adif | **49/15-3** The instructions regulating work should be more detailed, describing at all times the conditions and situations which carrying out work on the different elements of the safety installations and especially on the signals and other components may cause. |
| Adif | **49/15-4** The risk analysis and risk study should be carried out in the preliminary stages of the project for an adequate mitigation of the detected risks and their subsequent verification during the phases and stages of the project (design of the interlock, verification thereof, interlock tests, field tests, mitigating measures in the field tests, verification that the appropriate documents have been generated and verification that the associated risks have been correctly completed and closed, etc.) Where the regulation of the work is specified by means of instructions, work must be done on the content, scope and fundamental lines of implementation of those Instructions. Traceability, communication and exchange of information must be established between the preparation of the risk study and the instruction. |
| Adif | **49/15-5** In refresher courses given to staff involved in the operation of trains, stress the need to communicate, as soon as possible, any incidents that may affect traffic safety. |

#### 4.4.3.2 Near miss

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| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **04/16** | 25/01/16 | 336 El Reguerón-Alacant Terminal | Adif | Adif / Renfe Viajeros | Station |
| **Summary:** | | | | | |
| On 25 January 2016, at 23.29, 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 entrance 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 at the station.  No one was injured and there was no damage to property as a result of the incident. | | | | | |
| **Conclusion:** | | | | | |
| The incident was caused by human error on the part of the driving staff of the infrastructure maintenance train (made up of an infrastructure agent, acting as the engine driver and in possession of a category A driving licence, and an infrastructure machinery operator). | | | | | |

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

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| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **14/16** | 16/03/16 | 200 Madrid Chamartín-Barcelona França | 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 trains involved were the Acciona Rail CGX89 and the Continental Rail CGX44.  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. There were no personal injuries. | | | | | |
| **Conclusion:** | | | | | |
| The incident occurred due to human error on the part of the driving staff of train CGX89, more specifically due to a lack of attention, giving rise to departure signal S1/3, which was indicating stop, being overrun, and the consequent breach of regulations. | | | | | |

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| **Recipient** | **Recommendations** |
| Acciona Rail Services | **14/16-1** The SMS, whether by means of procedure PROC 02-03 or a new one, should include general criteria for the restoration of authorisations which have been suspended or revoked following a human error, according to the seriousness of that error, taking into account the content of ‘Technical Recommendation 4/2016 of the AESF on actions regarding the authorisations of railway personnel after events involving human error’. |
| National Railway Safety Authority (AESF) | **14/16-2** Carry out an assessment of the company ARS as regards their treatment of driving staff after events that affect the safety of rail traffic. |

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| --- | --- | --- | --- | --- | --- |
| **File** | **Date** | **Line** | **Manager** | **Operator** | **Place** |
| **36/16** | 18/07/16 | 790 Aranguren-Asunción Universidad | Adif (RAM) | Renfe Viajeros (Ancho Métrico) | Station |
| **Summary:** | | | | | |
| On 18 July 2016, a Feve short-distance railcar (UT 2903) carrying out manoeuvres in order to move from track 1 to track 2 of Boñar Station (León), at KP 30+200 on line 790 Aranguren-Asunción Universidad.  While performing that movement, the railcar overran the manoeuvring limit on the La Losilla side and also came to a stop and was immobilised on open track due to a breakdown. It was also the case that telephonic blocking was in place between Cistierna and Boñar (that is, the section where the overrun occurred).  Another passenger train, coming from the unmanned station of La Losilla, noticed the broken down railcar on the track and stopped, such that the two trains were facing each other at a distance of around 370 metres.  No damage to property or personal injuries resulted from the incident. | | | | | |
| **Conclusion:** | | | | | |
| The incident occurred due to human error on the part of the driving staff of the UT 2903 and, more specifically, due to a lack of attention while driving, which, on account of the brake being applied late, caused the manoeuvring limit at Boñar Station to be improperly overrun and the occupation of the section of track on which telephonic blocking was in place for the arrival at Boñar of another train. | | | | | |

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| **Recipient** | **Recommendations** |
| Renfe Operadora | **36/16-1** In training and retraining courses for drivers, insist on the need to comply with the speed limits set for carrying out manoeuvres at stations. |
| Adif | **36/16-2** In training and retraining courses for traffic managers, insist on the need to know exactly what manoeuvres are to be carried out by the rolling stock for which they are responsible and not to allow any which may give rise to unsafe situations. |

# 5. CAUSES OF THE EVENTS INVESTIGATED

The following table contains the direct cause of the different types of events for which the investigation was completed in the course of 2017. Four of the events in question occurred in 2015 and six in 2016. The data are broken down by event classification, rail network and type for each event. Casualties are also included (fatalities, serious injuries and minor injuries).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CAUSA IMPUTADA | CLASIFICA-CIÓN | RED | TIPO | CAUSA | TOTAL SUCESOS | VÍCTIMAS | | |
| MOR-TALES | HERIDOS GRAVES | HERIDOS LEVES |
| **FERRO-CARRIL** | **ACCIDENTE** | **ADIF** | Colisión con obstáculo | FACTOR HUMANO: trabajos en vía (43/15) | 1 | 0 | 0 | 0 |
| FALLO DE INFRAESTRUCTURA: desmoronamiento trinchera (12/16) | 1 | 0 | 0 | 0 |
| Colisión de trenes | FACTOR HUMANO: conducción, no realizar correcta aplicación del freno (46/15) | 1 | 0 | 0 | 2 |
| FALLO DE INFRAESTRUCTURA: instalaciones de seguridad (21/16) | 1 | 0 | 0 | 5 |
| Descarrilamiento | FALLO DEL MATERIAL RODANTE: aumento de la temperatura en la caja de grasa (58/15) | 1 | 0 | 0 | 0 |
| FALLO DE INFRAESTRUCTURA: vía, alabeo (10/16) | 1 | 0 | 0 | 0 |
| **INCIDENTE** | **ADIF** | Conato de colisión | FACTOR HUMANO: conducción, falta de atención (4/16, 14/16, 36/16) | 3 | 0 | 0 | 0 |
| Infracción reglamentaria | FACTOR HUMANO: no cumplir con el bloqueo telefónico supletorio (49/15) | 1 | 0 | 0 | 0 |
| **TOTAL FERROCARRIL** | | |  |  | **10** | **0** | **0** | **7** |
| **TOTAL GENERAL** | | |  |  | **10** | **0** | **0** | **7** |

In 100% of the events for which the investigation was concluded in 2017, the cause was attributable to the railway system (both accidents and incidents).

Furthermore, the human factor is the most significant direct cause (60% of the events), followed by faults in the installations (30%) and faults in the rolling stock (remaining 10%).

It is necessary to clarify that this analysis only relates to those **events that the CIAF decided to investigate at the time**. Accordingly, **under no circumstances can this be considered as representative of the accident rate for the Public Railway Network (RFIG).**

# 6. COMPARATIVE ANALYSIS

Shown below is the data on the total number of events investigated (accidents and incidents), the number casualties (fatalities, serious and minor injuries) and the recommendations made in each of the final reports resulting from investigations in the last five years.

As can be seen in the first table, the fall in the number of events investigated is consolidated (11 events in 2016 and 2017, compared to more than 20 each year up to 2013). This fall is explained by the tendency to focus the investigations on fewer cases, but from which more lessons can be drawn for the general improvement of the safety of the railway system. That criterion is also being applied in other European accident investigation bodies equivalent to the CIAF. The events requiring most attention remain near misses, collisions and derailments.

As regards the casualty rate (second table), the number of minor and serious injuries was relatively high in 2017, owing to the accident which occurred on 28 July at Barcelona’s França Station. Of all of the cases investigated, that one accident contributes all most all of the casualties.

As regards the number of recommendations issued, the matter is analysed in detail in the following section of this report (section 7).

**EVENTS TO BE INVESTIGATED 2013‐2017**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **YEAR** | **2013** | | | **2014** | | | **2015** | | | **2016** | | | **2017** | | | **OVERALL TOTAL**  **2013-2017** |
|  | **NETWORK**  **TYPE** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **Port Auth.** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF-AV** | **TOTAL** |
|
| **SERIOUS ACCIDENT** | Collision |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** | **1** |
| Derailment | 1 |  | **1** |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** | **1** |
| **ACCIDENT** | Collision | 3 | 1 | **4** | 2 |  | **2** | 3 |  | **3** | 3 |  | **3** |  |  | **0** | **13** |
| Derailment | 7 | 2 | **9** | 4 | 1 | **5** | 4 |  | **4** | 2 |  | **2** | 3 | 1 | **4** | **24** |
| Level crossings |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | 1 |  | **1** | **2** |
| Personal injuries | 1 |  | **1** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **2** |
| Fire |  |  | **0** | 1 |  | **1** |  |  | **0** | 1 |  | **1** |  |  | **0** | **2** |
| Runaway stock |  |  | **0** |  |  | **0** |  | 1 | **1** |  |  | **0** |  |  | **0** | **1** |
| **INCIDENT** | Near miss | 4 | 2 | **6** | 2 |  | **2** | 5 |  | **5** | 3 | 1 | **4** | 2 |  | **2** | **19** |
| Incipient fire |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | **1** |
| Vehicle component | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
| Track warping |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
| Runaway stock |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** | **1** |
| Regulatory infringement |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | **1** |
| Poorly prepared route | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** | **2** |
| Incorrect traffic operation |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
| Excess speed |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 1 |  | **1** | **1** |
|  | **TOTAL** | **18** | **5** | **23** | **13** | **1** | **14** | **14** | **1** | **15** | **10** | **1** | **11** | **10** | **1** | **11** | **74** |

**CASUALTIES (FATALITIES, SERIOUS AND MINOR INJURIES) OF THE EVENTS INVESTIGATED 2013-2017**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **YEAR** | **F / SI / MI** | **2013\*** | | | **2014** | | | **2015** | | | **2016\*\*** | | | **2017\*\*\*** | | | **OVERALL TOTAL**  **2013-2017** |
|  | **NETWORK**  **TYPE** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **ADIF** | **ADIF** | **Port Auth.** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF AV** | **TOTAL** |
| **SERIOUS ACCIDENT** | Collision | FA |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| SI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 7 |  | **7** | **7** |
| MI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | 52 |  | **52** | **52** |
| Derail-ment | FA | 80 |  | **80** |  |  | **0** |  |  | **0** | 4 |  | **4** |  |  | **0** | **84** |
| SI | 73 |  | **73** |  |  | **0** |  |  | **0** | 13 |  | **13** |  |  | **0** | **86** |
| MI | 79 |  | **79** |  |  | **0** |  |  | **0** | 34 |  | **34** |  |  | **0** | **113** |
| **ACCIDENT** | Collision | FA |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| SI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| MI | 15 | 7 | **22** | 2 |  | **2** | 2 |  | **2** | 5 |  | **5** |  |  | **0** | **31** |
| Derail-ment | FA |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| SI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| MI | 3 |  | **3** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **3** |
| Level crossings | FA |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | 1 |  | **1** | **2** |
| SI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| MI |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
| Personal injuries | FA | 1 |  | **1** | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** | **2** |
| SI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
| MI |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **0** |
|  | **TOTAL** | **FA** | **81** | **0** | **81** | **2** | **0** | **2** | **0** | **0** | **0** | **4** | **0** | **4** | **1** | **0** | **1** | **88** |
| **SI** | **73** | **0** | **73** | **0** | **0** | **0** | **0** | **0** | **0** | **13** | **0** | **13** | **7** | **0** | **7** | **93** |
| **MI** | **97** | **7** | **104** | **3** | **0** | **3** | **2** | **0** | **2** | **39** | **0** | **39** | **52** | **0** | **52** | **200** |

\* 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.

\*\*\* Includes casualties of the accident in O Porriño on 28 July 2017.

**RECOMENDATIONS MADE 2012‐2016\*, TO 31/12/2017**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **YEAR** | **2012** | | | **2013** | | | **2014** | | | **2015** | | | **2016\*\*** | | | **OVERALL TOTAL** |
|  | **NETWORK**  **TYPE** | **ADIF** | **FEVE** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** | **ADIF** | **Port Auth.** | **TOTAL** | **ADIF** | **ADIF (RAM)** | **TOTAL** |
|
| **SERIOUS ACCIDENT** | Derailment |  |  | **0** | 9 |  | **9** |  |  | **0** |  |  | **0** |  |  | **0** | **9** |
| **ACCIDENT** | Collision | 6 | 1 | **7** | 3 | 1 | **4** | 2 |  | **2** | 4 |  | **4** | 5 |  | **5** | **22** |
| Derailment | 13 | 3 | **16** | 7 | 4 | **11** | 5 | 1 | **6** | 8 |  | **8** | 2 |  | **2** | **43** |
| Level crossings | 2 |  | **2** |  |  | **0** | 4 |  | **4** |  |  | **0** |  |  | **0** | **6** |
| Personal injuries |  |  | **0** | 1 |  | **1** | 3 |  | **3** |  |  | **0** |  |  | **0** | **4** |
| Fire |  |  | **0** |  |  | **0** | 2 |  | **2** |  |  | **0** |  |  | **0** | **2** |
| Runaway stock |  |  | **0** |  |  | **0** |  |  | **0** |  | 6 | **6** |  |  | **0** | **6** |
| **INCIDENT** | Near miss |  | 1 | **1** | 1 | 3 | **4** | 1 |  | **1** | 9 |  | **9** | 2 | 2 | **4** | **19** |
| Incipient fire |  |  | **0** |  |  | **0** |  |  | **0** | 2 |  | **2** |  |  | **0** | **2** |
| Track warping |  |  | **0** |  |  | **0** | 1 |  | **1** |  |  | **0** |  |  | **0** | **1** |
| Runaway stock |  | 3 | **3** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **3** |
| Poorly prepared route |  |  | **0** | 1 |  | **1** | 2 |  | **2** |  |  | **0** |  |  | **0** | **3** |
| Regulatory infringement |  |  | **0** |  |  | **0** |  |  | **0** | 5 |  | **5** |  |  | **0** | **5** |
| Signal overrun | 1 | 2 | **3** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **3** |
| Broken axle | 1 |  | **1** |  |  | **0** |  |  | **0** |  |  | **0** |  |  | **0** | **1** |
|  | **TOTAL** | **23** | **10** | **33** | **22** | **8** | **30** | **20** | **1** | **21** | **28** | **6** | **34** | **9** | **2** | **11** | **129** |

\* 2017 was not included, since, as at 31 December, none of the investigations of the accidents occurring that year had been concluded.

\*\* These relate to the 6 events from 2016 (of a total of 11) for which the investigation was completed in 2017.

# 7. RECOMMENDATIONS

## 7.1 Recommendations made in 2017

The purpose of the railway accident and incident investigations carried out by the CIAF is to contribute to the perfecting of railway safety by identifying possible improvements based on the study and analysis of the events investigated (determining responsibility or attributing blame for the events investigated is expressly excluded).

Those possible improvements are proposed by means of safety recommendations. Those recommendations are made public with the final reports, which are, moreover, sent to the bodies concerned: the national safety authority (which in Spain is the National Railway Safety Agency – AESF) and the European Union Agency for Railways (EUAR).

As mentioned in previous sections, the investigations of 10 events (4 from 2015 and 6 from 2016) were completed in the 2017 period. The final report for 9 of them contained recommendations.

The total number of recommendations made in 2017 was 22 (11 referring to events from 2015 and a further 11 to events from 2016), yielding an average of 2.2 recommendations for each event investigated (2.4 taking into account only those events giving rise to recommendations).

Broken down by type of event, the recommendations are distributed as follows: 41% due to collision (9 recommendations), 23% due to regulatory infringement (5), 18% due to derailment (4) and 18% due to a near miss (4).

With regard to the recipients, the recommendations are addressed to the national safety authority (in accordance with the regulations), although the final reports of the CIAF also refer to the party responsible for implementing (final recipient) the measures necessary to comply with what has been recommended. Thus, the final recipients of these 22 recommendations are:

|  |  |  |  |
| --- | --- | --- | --- |
| IMPLEMENTING PARTIES | | RECOMMENDATIONS | |
| National Safety Authority | **AESF** | 2 | 9% |
| Infrastructure Managers | **Adif** | 12 | 55% |
| Railway Undertakings | **Continental Rail** | 3 | 14% |
| **Renfe Operadora** | 3 | 14% |
| **Acciona Rail Services** | 1 | 5% |
| **Transfesa Rail** | 1 | 5% |

|  |  |
| --- | --- |
| Adif | Adif |
| AESF | AESF |
| Transfesa Rail | Transfesa Rail |
| Continental Rail | Continental Rail |
| Acciona Rail Services | Acciona Rail Services |
| Renfe operadora | Renfe Operadora |

## 7.2 Measures adopted in 2017 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 recommendations issued previously.

This section includes the information received regarding the measures adopted by the corresponding implementing parties (final recipients) and reported to the National Railway Safety Agency (AESF) in the 2017 period, in response to recommendations made by the CIAF since it commenced on its activities in December 2007.

The information set out below has been provided by the AESF. The AESF is responsible for following-up the recommendations made by the CIAF, assessing the measures adopted by the final recipients in order to implement them and reporting to the CIAF.

The following table contains the total number of recommendations made by the CIAF from its inception up to 31 December 2017 (290), as well as the number of those deemed to have been adequately complied with on the basis of the measures adopted as at the 2017 year end (209). Those recommendations compliance with which was deemed adequate during the course of 2017 and where this Commission has been notified to that effect are also specified.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | No of files with recommend-ations | Total recommend-ations | Total with adequate compliance | % recommend-ations | Recommendations where adequate compliance was notified in 2017 | | | | |
| 2007 | 2 | 2 | 2 | 100% |  |  |  |  |  |
| 2008 | 31 | 45 | 43 | 96% |  |  |  |  |  |
| 2009 | 26 | 39 | 36 | 92% |  |  |  |  |  |
| 2010 | 20 | 45 | 42 | 93% |  |  |  |  |  |
| 2011 | 18 | 30 | 28 | 93% | 3/11-1 |  |  |  |  |
| 2012 | 16 | 33 | 27 | 82% |  |  |  |  |  |
| 2013 | 17 | 30 | 16 | 53% |  |  |  |  |  |
| 2014 | 12 | 21 | 8 | 38% | 41/14-1 | 51/14-1 | 61/14-1 |  |  |
| 2015 | 13 | 34 | 7 | 21% | 30/15-1 | 39/15-1 | 39/15-2 | 49/15-1 | 49/15-2 |
| 2016 | 5 | 11 | 0 | 0% |  |  |  |  |  |
| **Total** | **160** | **290** | **209** | **72%** |  |  |  |  |  |

2017 is not included, since, as at 31 December 2017, none of the investigations of the events occurring that year had been concluded.

The measures adopted by the implementing parties (or final recipients) of the recommendations, as reported to the CIAF in 2017 by the AESF, are set out below. In each case, the relevant event (file number) and recommendation is indicated, as well as the final recipient and the date on which the final recipient notified the measure to the AESF.

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| **FILE 0054/13** |
| **CIAF recommendation No 54/13-3.2** |
| The national railway safety authority must ensure that recommendation 54/13-3.1 is extended to all other railway undertakings.  *(Recommendation 54/13-3.1: Strengthen the procedures set out in the SMS of Renfe Operadora such that safety-related deficiencies detected at any level are redirected towards the operationally established channels for their analysis and consideration, thereby assuring efficient preventative management.)* |
| **Final recipient:** **Directorate-General for Railways** *(subsequently, the* ***National Railway Safety Agency****, as the entity succeeding the Directorate-General as the national railway safety authority)* |
| **Measures adopted by the final recipient (adopted by the AESF on 13/12/2017):** |
| In order to comply with this recommendation, on 13/12/2017 the **AESF** drew up Technical Recommendation 7/2017 on the communication of safety improvement proposals and information about possible risks within railway undertakings.  The purpose of that recommendation is to establish guidelines relating to the procedures which railway undertakings, infrastructure managers and entities in charge of maintenance must have in place so that communications sent by their employees, at any level, regarding safety matters, are handled appropriately. |

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| **FILE 0054/13** |
| **CIAF recommendation No 54/13-4** |
| The national railway safety authority should consider the re-establishment of the Joint Traffic Safety Committees, with attendance by representatives of Adif and the railway undertakings and supervised by that authority, at which risk situations arising from the driving-vehicle-track interaction can be analysed. |
| **Final recipient:** **Directorate-General for Railways** *(subsequently, the* ***National Railway Safety Agency****, as the entity succeeding the Directorate-General as the national railway safety authority)* |
| **Measures adopted by the final recipient (adopted by the AESF on 28/12/2017):** |
| In order to comply with this recommendation, on 28/12/2017 the **AESF** drew up Decision 5/2017 announcing round-table meetings to coordinate and exchange experiences with regard to railway safety.  By means of that Decision, a round-table has been established for exchanging experiences with companies and unions, similar to the joint safety committees. |

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| **FILE 0054/13** |
| **CIAF recommendation No 54/13-7.2** |
| The national railway safety authority must ensure that recommendation 54/13-7.1 is extended to all other railway undertakings.  *(Recommendation 54/13-7.1: Promote the progressive implementation of a system of audio recording in driving cabs. Analyse the feasibility of having a system of video recording as well.)* |
| **Final recipient:** **Directorate-General for Railways** *(subsequently, the* ***National Railway Safety Agency****, as the entity succeeding the Directorate-General as the national railway safety authority)* |
| **Measures adopted by the final recipient (adopted by the AESF on 25/07/2017):** |
| In order to comply with this recommendation, on 25/07/2017 the **AESF** drew up Technical Recommendation 4/2017 on juridical recording units.  This recommendation promotes the installation or recording equipment compatible with the provision audio and video recording equipment. Thus, if railway undertakings decide to use those means of surveillance, they can do so without any technical impediments. |

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| **FILE 0060/13** |
| **CIAF recommendation No 60/13-1** |
| Identify, within the metre gauge network (Red de Ancho Métrico: RAM), the places where equipment similar to that described in this report (file 60/13 investigation report) is installed, in order to analyse its performance and to study potential improvement actions. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (notified to the AESF on 02/08/2017):** |
| At the start of 2017, the **Adif** RAM subdirectorate reported that it had approved a series of investment measures to replace the current interlocks and the relevant associated blocking with electronic interlocks, eliminating the relays for controlling the passing sequence of the trains.  These measures represent a change to the content of the plan initially proposed, having been coordinated with a plan to replace telephonic blocking throughout the network. The measures adopted are:   * Replacement of telephonic blocking on the suburban lines of the metre-gauge network in Galicia (Ferrol-Ortigueira) with automatic blocking. Affects 5 interlocks. * Replacement of telephonic blocking on the suburban lines of the metre-gauge network in León (León-Cistierna) with automatic blocking. Affects 4 interlocks. * Crossover of the double track between Santander and Torrelavega Centro (5 interlocks).   The plans for the projects are being drawn up, in order to be put out to tender and executed according to the resources available. While these investments are being made, the installations are dealt with through the maintenance place under which the condition of the relays is inspected. |
| **FILE 0060/13** |
| **CIAF recommendation No 60/13-2** |
| Include, in the installation maintenance plans, actions aimed at reviewing and verifying the performance of relay systems with features similar to those described in this report (file 60/1 investigation report). The reviewing and verification must be carried out with the frequency and in the manner specified in the manufacturer's technical specifications. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (notified to the AESF on 02/08/2017):** |
| The **Adif** RAM subdirectorate reports that, in 2016, the preventative maintenance plan for the relay interlocks in areas with automatic blocking was carried out, in which, inter alia, the condition and functioning of the relays was verified according to the relevant date. According to its records, in the preceding 12 months all of the installations meeting those criteria (13 installations in Asturias, 10 in Cantabria and 6 in Vizcaya) were checked.  The department for traffic safety on the metre-gauge network makes the following observation: Adif should promote the provision of the resources necessary to activate the investment measures approved and compliance with the maintenance plans for the installations. |

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| **FILE 0041/14** |
| **CIAF recommendation No 41/14-1** |
| Reconsider the 252 High Speed locomotive maintenance plan, incorporating into it, in the maintenance actions considered appropriate, checking the tightness of the Q1 system switch connectors and leaving a documentary record of the that operation. Moreover, as part of the maintenance actions considered appropriate, a visual inspection to check for the absence of oil leaks in the main transformer connection area should be carried out. |
| **Final recipient:** **Renfe Operadora (entity in charge of maintenance)** |
| **Measures adopted by the final recipient (notified to the AESF on 06/02/2017):** |
| **Renfe** reports that the maintenance plans for the 252 locomotives have already been updated; however, as indicated in an earlier report following up this recommendation, the maintenance operations to which this recommendation relates have been applied since the final quarter of 2015. |

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| **FILE 0041/14** |
| **CIAF recommendation No 41/14-2** |
| Improve the fire detection system fitted to those locomotives (252 High Speed), so that it is able to detect the outbreak of fires of a similar nature. |
| **Final recipient:** **Renfe Operadora (entity in charge of maintenance)** |
| **Measures adopted by the final recipient (notified to the AESF on 06/02/2017):** |
| **Renfe** reports that the technical solution to be implemented has already been approved and is being put out to tender. A bid from the external supplier which carries out the maintenance on those locomotives has already been received. Once the contract for the installation has been awarded, it is envisaged that the installation of the detection system on the 68 locomotives will take 18 months. |

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| **FILE 0061/14** |
| **CIAF recommendation No 61/14-1** |
| Promote both corrective and preventative maintenance with a view to maintaining safe driving conditions on the Tarragona Clasificación EV track. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (notified to the AESF on 20/04/2017):** |
| **Adif** reports that, on 10 April 2017, the comprehensive repair works on the Tarragona Clasificación EV track were concluded and the temporary speed limit which had been introduced has been lifted. |

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| **FILE 0028/15** |
| **CIAF recommendation No 28/15-1** |
| Refresher courses for drivers should stress 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 (notified to the AESF on 04/09/2017):** |
| **Continental Rail** has sent the AESF its *Safety Communication 2015-01 GUIDELINES ON TRAIN DRIVING*, in section 3.1 of which the situations to be taken into account when driving isolated locomotives are identified. The times needed to reach the relevant maximum speed are much shorter. It will also be necessary to act earlier in order to reduce speed or stop.  With regard to the use of the dynamic brake with an isolated locomotive, it must be borne in mind that will be necessary to act early in setting it, as, unlike in the case of pulling a train (when the dynamic brake can be set and the automatic brake can be applied simultaneously), with an isolated locomotive no braking force will be obtained until the brake setting sequence has been verified after a few seconds.  The same document specifies that the document will form part of the content of qualification renewal courses. |

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| **FILE 0028/15** |
| **CIAF recommendation No 28/15-2** |
| A procedure setting out general criteria for suspending, revoking and restoring authorisations following a human error, depending on its seriousness, should be drawn up and included in the Continental Rail SMS. |
| **Final recipient:** **Continental Rail** |
| **Measures adopted by the final recipient (notified to the AESF on 04/09/2017):** |
| Sections 4.5 and 4.6 of **Continental Rail** procedure SGS PG-09 specify the criteria for suspending, revoking and restoring authorisations following a human error, depending on its seriousness. |

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| **FILE 0030/15** |
| **CIAF recommendation No 30/15-1** |
| As a definitive solution, analyse the feasibility of relocating departure signal(s) S BSN M3 (and B BSN M4) at Barcelona’s Sants Station to another place to reduce the risk of confusion on the part of drivers. |
| **Final recipient:** **Adif** |
| **Measures adopted by the final recipient (notified to the AESF on 02/08/2017):** |
| **Adif** has sent the AESF a report justifying the fact that the signals in question have not been removed, referring to the adoption of other actions considered sufficient to avoid confusion (in keeping with the objective of the recommendation): rotating the signal, fitting it with visors and placing a transverse screen between the two signals. |

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| **FILE 0039/15** |
| **CIAF recommendation No 39/15-1** |
| Should water be detected inside a grease box 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. |
| **Final recipient:** **Renfe Operadora** |
| **Measures adopted by the final recipient (notified to the AESF on 18/05/2017 and 29/05/2017):** |
| **Renfe** has provided the AESF with information about the actions carried out to comply with the recommendations made.  Since January 2016, 44 IM2 interventions, 19 IM3 interventions and no IM4 interventions have been carried out on axles of the 599 series. In none of the above interventions was the presence of water detected inside the axle boxes and, therefore, it has not been necessary to apply the envisaged protocol.  The maintenance plan currently in force provides for the inspection of the condition of the lubricant in type IM2 interventions from now on.  The reference document for that task is NTM.2991.203.00, which, in point C.2.6.3 ‘Contamination of the lubricant’, states: ‘*If the equipment has been working in water, or passing through water of such a depth that water ingress into the bearing internals is considered a possibility, the bearings must be removed from their axles immediately, taking them apart, cleaning them and replacing them, or repairing any components which may have been damaged.*’ |

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| **FILE 0039/15** |
| **CIAF recommendation No 39/15-2** |
| On replacing an axle on a 599 vehicle, it must be checked that the kilometres travelled since the last complete inspection 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. |
| **Final recipient:** **Renfe Operadora** |
| **Measures adopted by the final recipient (notified to the AESF on 18/05/2017):** |
| In the document sent to the AESF, **Renfe Operadora** states:  *In total, 7 axles of the 599 series vehicles have been replaced since December 2016, when the CIAF report was issued - in every case it was verified that the mileage of the axle and its bearings complied with recommendation 39/15-02. Furthermore, on 29 May 2017, Renfe Mantenimiento issued a report regarding the maintenance protocol for the 599 series.*  For this recommendation, it states:  *The actions regarded as maintenance best practice include respecting the fact that the kilometres accumulated since the last time the components mounted on a vehicle were zeroed must always be less than or equal to the kilometres travelled by the vehicle itself, so that it is possible to be sure that all of the train’s components are maintained with the frequencies stated in the maintenance plan (MP) for each type of equipment. Only in the case of series for which the MP stipulates maintenance based on potential lifespans is this practice not employed, as the traceability and frequencies of interventions for each of the components having their own potential lifespan are controlled individually. With the S/599, the first case applies and, therefore, when it is necessary to replace a component, it is replaced with another which has been zeroed or which has a number of kilometres less than or equal to those of the train on which it is going to be mounted.*  *However, while this is standard practice, a letter will be sent to all maintainers to remind them to apply this point.* |

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| **FILE 0049/15** |
| **CIAF recommendation No 49/15-1** |
| In the refresher courses given to the driving staff, stress degraded or unusual situations such as the case of the supplementary telephone block. |
| **Final recipient:** **Renfe Operadora** |
| **Measures adopted by the final recipient (notified to the AESF on 06/10/2017):** |
| **Renfe** reports on the measures adopted: *On 12/05/2017, the training pathways for Grupo Renfe driving staff were finalised. They emphasise training in degraded and critical situations, taking into account the return of experience from recorded events, and include carrying out simulations of operations with rolling stock in incident and breakdown situations. The pathways implement the programme of biennial refresher and retraining courses.* |

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| **FILE 0049/15** |
| **CIAF recommendation No 49/15-2** |
| Develop and implement the appropriate mechanisms to ensure that train drivers receive the notices which affect them, from those responsible for documentation for the different organisational areas, before carrying out their services. Middle managers must advise the train drivers, reminding them of the application of the traffic conditions included in those documents before carrying out their duties. |
| **Final recipient:** **Renfe Operadora** |
| **Measures adopted by the final recipient (notified to the AESF on 06/10/2017):** |
| **Renfe** reports on the measures adopted:  *On 19/06/2017 and 17/07/2017, the Renfe Viajeros Investigation Management, Monitoring and Coordination Subcommittee indicated the need to comply with the stipulations of procedure RV-SGS-PG-02 ‘General Procedure for the Distribution of Regulatory Documents’, providing acknowledgement of receipt.*  *Monitoring the degree of compliance with this requirement is included in the audits of driving rules scheduled by Renfe Viajeros and also in those carried out by the Traffic Safety Department.*  *The same subcommittee has also insisted on the importance of production middle managers advising their driving staff, on a continuous basis, regarding the application of the traffic conditions appearing in the documents.* |

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| **FILE 0052/15** |
| **CIAF recommendation No 52/15-1** |
| A procedure should be drawn up as part of Continental Rail’s SMS to establish the measures necessary to verify compliance with driver working hours, based on planned train services, and, in the event of a degraded situation, to adjust driving times and prevent non-compliance with those hours. |
| **Final recipient:** **Continental Rail** |
| **Measures adopted by the final recipient (notified to the AESF on 04/09/2017):** |
| **Continental Rail** reports that Instruction I II SGS-PG- 17 of its SMS (currently in the process of being approved) MANAGING SHIFTS AND WORKING HOURS establishes the procedure for controlling maximum working hours. |

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| **FILE 0052/15** |
| **CIAF recommendation No 52/15-2** |
| Incorporate Technical Recommendation 7/2014 of the Directorate-General for Railways (DGR), on procedures to control maximum driving times, into the Continental Rail SMS. |
| **Final recipient:** **Continental Rail** |
| **Measures adopted by the final recipient (notified to the AESF on 04/09/2017):** |
| **Continental Rail** reports that the content of Technical Recommendation 7/2014 of the DGR is incorporated into instruction I II SGS-PG 17. Furthermore, to comply with that recommendation, its department in charge of safety issued Safety Communication 2014/02 ‘PROCEDURES TO CONTROL MAXIMUM DRIVING TIMES’. In January 2015, the DGR was notified both of the measures taken to include the technical recommendation in its SMS and of the issuance of the safety communication. |

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| **FILE 0052/15** |
| **CIAF recommendation No 52/15-3** |
| The recommendation of CIAF 28/15-2 is reiterated: A procedure setting out general criteria for suspending, revoking and restoring authorisations following a human error, depending on its seriousness, should be drawn up and included in the Continental Rail SMS. |
| **Final recipient:** **Continental Rail** |
| **Measures adopted by the final recipient (notified to the AESF on 04/09/2017):** |
| Sections 4.5 and 4.6 of **Continental Rail** procedure SGS PG-09 specify the criteria for suspending, revoking and restoring authorisations following a human error, depending on its seriousness. |

1. Those regulations have undergone partial amendments by means of: 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-2)
2. It was partially amended and repealed by various subsequent directives, until its complete repeal by the new Railway Safety Directive (EU) 2016/798 of the European Parliament and of the Council, of 11 May 2016, which has yet to be transposed into Spanish law. [↑](#footnote-ref-3)