AN COIMISIÚN UM RIALÁIL IARNRÓID
COMMISSION FOR RAILWAY REGULATION

The National Safety Authority for Railways in Ireland

2018 annual report to the European Union Agency for Railways

Version Control

Document issued by:	**Commission for Railway Regulation** **Temple House, Blackrock, Co. Dublin, Ireland**
Released by:	Brian Higgisson
Reviewed by:	Donal Casey
Authors:	Brian Higgisson, Mary Molloy, Anthony Byrne, Donal Casey
Version:	1.0
Date:	02/10/2019
Type of document:	Report
Status of document:	Final

Amendment record

Version	Date	Issuer	Modifications	Distribution
1.0	02/10/2019	CRR	Original	ERA

Contents

Definitions and Abbreviations

CSI	Common Safety Indicator
CSM	Common Safety Method
CST	Common Safety Target
DTTAS	Department of Transport Tourism and Sport
EC	European Commission
ECM	Entities in charge of maintenance
EMM	Enforcement Management Model
ERA	European Union Agency for Railways
ERAIL	European Railway Accident Information Links
ERTMS	European Railway Traffic Management System
EU	European Union
FTE	Full Time Equivalent
IM	Infrastructure Manager
IOD	Interoperability Directive
NIB	National Investigation Body for railway accidents
NoBo	Notified Body
NRV	National Reference Value for CST
NSA	National Safety Authority for railways
PRM TSI	Technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility
RAIU	The NIB in Ireland
RSD	Railway Safety Directive
RU	Railway Undertaking
SMS	Safety Management System
TDD	Train Drivers Directive
TSI	Technical Specification for Interoperability
VA	Vehicle Authorisation

1. Introduction

1.1. Purpose, scope and addressees of the report

1.1.1. Purpose and scope of the report

The Commission for Railway Regulation (CRR) is pleased to submit its annual report to the EU Agency for Railways (ERA) for the year 2018. This is the first annual report under the CRR's current strategy 2018 – 2020.

Article 18 of the Railway Safety Directive 2004/49/EC (the Directive) requires the CRR to publish an annual report by 30th September each year concerning its activities in the preceding year and to send it to the European Union Agency for Railways (ERA).

The CRR endeavours to show how the railway system is performing, highlighting difficulties and good practices while leading the railway industry in Ireland on a safety improvement journey. This report aims to provide evidence of the CRR's ongoing efforts to improve safety performance in the State, communicate its main safety messages and objectives, show what it is doing and why, and explain how well it is succeeding.

The geographic scope of this report is the 1600mm gauge national railway system in the Republic of Ireland.

1.1.2. Structure/data to which the document refers

The annual report shall contain information on:

- the development of railway safety, including an aggregation at Member State level of the common safety indicators (CSIs) laid down in Annex I;
- important changes in legislation and regulation concerning railway safety;
- the development of safety certification and safety authorisation;
- results of and experience relating to the supervision of infrastructure managers and railway undertakings;
- derogations for entities in charge of maintenance of vehicles decided in accordance with Article 14a(8) of the Directive.

Please note that this report uses an aspirational template which includes the extended requirements under the fourth railway package, in particular the recast Railway Safety Directive 2016/798. As this recast Directive is not yet in force nationally in 2018, some of the extended requirements are not fulfilled.

1.1.3. Target audience of the report

To improve global railway safety, the ERA needs to understand how the EU railway system is functioning and any issues that are impacting on safety performance. This annual report demonstrates how the CRR, as National Safety Authority (NSA) for railways in Ireland, is promoting the EU rail regulatory framework[1] while fulfilling its tasks under the Railway Safety Directive (EC) 2004/49 and preparing for the changes to be brought about by the incoming Railway Safety Directive (EU) 2016/798.

This report offers some insight to the operational railway companies and applicants for safety certification and safety authorisation, including the railway undertakings (RU), the infrastructure manager (IM) and the entities in charge of maintenance of vehicles (ECM), which should help them to continually improve their safety management systems (SMS).

This report may also be of interest to the National Investigating Body (NIB) for railway occurrences and to the Department of Transport, Tourism and Sport.

[1] *(EU) 2016/798 - Art 16 (i) - NSA tasks include "monitoring, promoting, and, where appropriate, enforcing and updating the safety regulatory framework including the system of national rules"*

1.1.4. Availability of the report to stakeholders

This report will be published on the websites of the CRR and the ERA.

1.2. Main conclusions on the reporting year

1.2.1. Main conclusion about how the railway system performed

Overall the railway system in Ireland performed well in 2018, particularly in the context of an increase of 5.4% passenger journeys with representing a 7.5% increase in passenger-km.

The regulated entities in Ireland requiring recertification and reauthorisation engaged extensively with the CRR in relation to conformity assessment for their respective renewed safety certification and safety authorisation, which were achieved in March 2018.

Extensive supervisory functions including audit and inspection were planned and carried out on a risk basis. On the national rail network, formal enforcement after an audit or inspection was required in three instances.

However, six 'significant accidents' (as defined by the Directive) were reported, which is higher than recent years, and this was mainly due to infrastructure-related issues causing delays to trains.

A review of some aspects of the national primary Railway legislation was initiated by DTTAS and the CRR proposed amendments based on its experience.

1.2.2. Overall trends

The safety performance of the Irish railway sector was broadly positive when compared against previous years, and against a backdrop of increasing passenger journeys and train/tram kilometres travelled.

There were no passenger fatalities in 2018, but nine people lost their lives after trespassing onto the railway, the same number as in 2017. There were no reports of deaths at level crossings.

2018 saw a continued reduction in train collisions, particularly with large animals. However, Signal Passed At Danger (SPAD) occurrences increased to 13 in 2018, from the low of 11 in 2017. Even though the number of such events remains low, this accident precursor will remain a focus for the CRR.

The railway infrastructure suffered a number of structural failure type occurrences in 2018 which typically followed adverse weather events. This is a cause for concern.

1.2.3. Impact of the above analyses on the next year activities

Ascertaining a trend in accident and incident statistics in Ireland is difficult given the number of occurrences is very low. In 2019, the CRR Supervision Team will focus as always on those key assets that give cause for concern. In planning its annual program of work every year the CRR reviews the safety performance of each railway organisation, including the type and number of accidents, incidents they have suffered, audit and inspection findings, complaints and representations by, or on behalf of staff and passengers. Using this data, together with professional judgement, new supervision plans are developed for the forthcoming year.

These supervision plans are risk based meaning those railway organisations that have greater exposure to risk, by virtue of the size of the operation, can expect more supervision than those who have limited exposure to risk. The CRR adopts the principals for supervision that include proportionality, consistency, transparency and we work closely with the railway organisations we regulate.

1.2.4. Priority actions for the next year

In addition to the actions indicated in section 1.2.3, the CRR is participating in trialling the European Railway Safety Culture Model. It is envisaged that CRR Inspectors will receive basic level training in the model and integrate it into various supervision activities we undertake, i.e., auditing, inspecting and meeting with railway personnel.

2. Summary

The CRR had a challenging program in 2018 relating to its safety and regulatory functions. These included a range of safety assessments associated with the certification and authorisations required under EU legislation, as well as safety supervisory functions on the major regulated entities including audit and inspection planned on a risk-based analysis. We continued to monitor railway organisations' implementation of CRR required actions and the recommendations of the Rail Accident Investigation Unit (RAIU), which continue to be addressed by the regulated entities.

In addition, the CRR as the monitoring body for the Infrastructure Manager Multi Annual Contract fulfilled all of its functions. The duties and responsibilities to ensure the maintenance of the infrastructure in the contract were fulfilled within budget limitations.

As part of its key safety functions the CRR undertook a range of activities relating to conformity, authorisation to place in service, supervision and enforcement. These actions were focused on the continued safe operation of the Irish rail network. The required certification and authorisation applications were made to the CRR including the renewed Safety Certification to Iarnród Éireann – Railway Undertaking and renewed Safety Authorisation to Iarnród Éireann – Infrastructure Manager in March 2018 following a full and detailed assessment of their respective Safety Management Systems.

In 2018, twelve letters of authorisation relating to the various stages associated with authorisation to place in service were issued by the CRR. These included two full authorisations for 'service operation', which are issued when the applicant has made available all the required evidence to show that the installation or vehicle has met the full design requirements for all operating modes and the foreseeable degraded operating modes.

The CRR carries out supervision and enforcement functions with an emphasis on support, advice, encouragement and when necessary direction.

The supervision activity completed six audits relating to four regulated entities resulting in the identification of 17 minor non-compliances and a further 27 required actions. No major non-compliances were found in 2018. A total of 105 inspections (30% more that in the previous year) were also completed. Formal enforcement in the form of Improvement Plan or Improvement Notice after audit or inspection was required in three instances.

The CRR undertook the development of a new Statement of Strategy which was published in 2018.

The societal and economic value of both the heavy and light rail networks is clearly evident with the increasing numbers of both heavy and light rail passenger journeys in 2018. There was an increase of approximately 5.4% in heavy rail use: this equates to just under 48 million passenger journeys.

A significant deadline in 2018 related to the requirement for all train drivers to be licenced by the 29th October in order to operate on the rail network within the EU. In line with the legal requirements, the CRR received applications and train driver licences were issued within the required deadline.

As the rail regulator the CRR is the independent monitor of the Multi-Annual Contract between the IÉ Infrastructure Manager and the Minister. The CRR completed the required review and reporting requirements in line with the contract criteria.

The CRR in 2018 engaged with stakeholders in relation to Brexit and the CRR's information to relevant stakeholders and the impact of a no-deal Brexit on EU railway undertaking licencing, driver licencing and certification in the context of EU rules in the field of rail transport.

3. NSA safety strategy, programs, initiatives and organizational context

3.1. Strategy and planning activities

3.1.1. NSA strategy and planning of activities/initiatives to improve the safety railway system.

In 2018, the CRR published its new Statement of Strategy. This sets out the vision, mission and key priorities for the CRR over the next three years.

The CRR mission states that the CRR is committed to advancing railway safety, the maintenance and further development of high performing and sustainable railway systems and ensuring fair access to the Irish conventional railway network in Ireland through regulation, monitoring, encouragement and promotion.

In accordance with the CRR's vision of "railways that safely deliver", its safety initiatives are linked to the main safety critical areas and indicators of accidents and precursors, in order to improve the CSI trends.

The following priorities indicated in the CRR Statement of Strategy 2018-2020 were addressed by the CRR as it continued to deliver on its responsibilities under European and national legislation during 2018 to ensure continuous improvement in the safety performance railway systems, i.e.,

- To ensure compliance with legislation and standards via its certification, authorisation and supervision activity
- To develop working relationships and partnerships with stakeholders where opportunities for safety initiatives exist.
- To support the development of reporting and business intelligence systems to ensure safety risk is known and understood by the industry and the public.
- To promote the use of risk-based thinking amongst all railway organisations.
- To ensure that our programmes and the allocation of resources are based on evidence, research, analysis and evaluation.
- To give additional focus to selected areas of high and emerging risk are evident.

The following task areas were also addressed by the CRR as it continued to deliver on its responsibilities under European and national legislation during 2018:

- Continuing co-operation with, and technical support to the DTTAS in the development of functions for economic regulation of the railway sector in compliance with Directive 2012/34/EU;
- Engagement with the EU and ERA in the development of EU legal instruments designed to facilitate implementation of the fourth railway package;
- Professional development of all CRR staff so as to help ensure that adequate railway-specific technical and legal knowledge and skills are available within the organisation.

3.1.2. NSA process of review and continual improvement of its strategy and planning of activities/initiatives

At an annual safety performance review workshop, the safety performance of the railway organisations we supervise is reviewed and the methods by which we supervise is discussed.

A review of activities undertaken in the year is carried out where the views and opinions of CRR Inspectors are sought in relation to what worked well, what did not work as expected and what can we do to improve how we supervise the sector.

CRR Inspectors are expected to provide suggestions, with reasons for same, for future supervision activities. Suggestions and topic for supervision are largely based on Inspector experience and what they have observed, heard or told.

Following this workshop annual plans are developed for each of the principal Railway undertakings and the Infrastructure Manager. To assist in our supervision activity the CRR uses a suite of audit and inspection templates and these are also reviewed to ensure we are capturing new and emerging risks.

The CRR undertook a survey of Railway Organisation stakeholders in January 2018 which was the second such survey undertaken by the CRR of the sector. The aim of the survey was to gather feedback on CRR supervision activity on Railway Organisations in 18 specific areas relating to audit and inspection. These included: Audit expectations, usefulness, outcome, proportionality, scope and administration, Inspection usefulness: Inspection outcome, proportionality and administration as well as common areas including communication effectiveness, consistency, inspector knowledge and experience, degree of supervision, risk targeting and effectiveness in raising awareness of safety.

3.1.3. NSA strategies in international activities

The CRR as a small NSA participates in as many national and international fora as possible. These include the European Commission's Railway Safety and Interoperability Committee, ERA Working Groups and Task Forces, and ERA's NSA plenary meetings, and attending International Liaison Group for Government Railway Inspectorates (ILGGRI) plenary meetings and railway related conferences.

The CRR is also an active member of the International Railway Safety Council (IRSC) which provides a forum for the exchange of experience and lessons for improving railway safety. In 2018, the CRR co-hosted circa 200 delegates from around the world at the International Railway Safety Council conference in Dublin.

The theme for IRSC 2018 was an "Organisational Culture that values Safety", and a CRR Inspector presented work done on the relationship between organisational culture and safety outcomes, which is one strategy area for the CRR.

3.1.4. NSA measures adopted or planned regarding to the recommendations issued by NIB and monitoring of their implementation status

(in accordance with art. 26(2) of the Directive (EU) 2016/798).

The CRR actively monitors the implementation of NIB safety recommendations with all regulated entities. This typically involves periodic meetings with personnel from the principal railway organisations to review progress and review provisional submissions of evidence of action taken.

By the end of 2018, a cumulative total of 134 Safety Recommendations had been made by the Irish NIB for the period 2010-2018 inclusive. Of these, 96 are closed, 4 are advised to the CRR as having been addressed and 34 are in progress.

Of the 34 that are in progress, just one is assigned to the CRR. This relates to closing historic recommendations made before the establishment of the NIB. Actions to address this outcome are well advanced with an assigned resource actively pushing to closes these historic outcomes. It is expected that this legacy safety recommendation will be closed in or before 2020.

Of the remaining 33 outcomes, 25 are assigned to Iarnród Éireann – Infrastructure and 5 are assigned to Iarnród Éireann – Railway Undertaking. Actions have been taken in all cases however where a safety recommendation requires capital expenditure actions are assigned in the context of the overall prioritisation of safety demands.

3.2. Safety measures implemented unrelated to the NIB Safety Recommendations

3.2.1. NSA measures adopted or planned by NSA

Safety measures unrelated to the recommendations for the safety improvement of railway system (e.g. organisational, operational measures)

With the publication by the EU of revised Common Safety Methods that include new safety management requirements, Commission delegated Regulation (EU) 2018/762, the CRR is striving to raise the profile of the area of human factors, and to support efforts to improve the industry's capability in this area.

Recognising the vulnerability at railway interfaces, we are endeavouring to keep the focus of railway organisations management of risk at railway level crossings. A comprehensive inspection was undertaken in 2018 looking at user worked level crossings, a type of passive level crossing. In 2019, it is the CRR's intention to undertake a similar inspection of high-risk manned level crossings.

3.2.2. Monitoring of implementation status

Safety Recommendations made by the NIB although directed at the railway organisation(s) concerned are in the first instance addressed to the CRR as the responsible NSA. It is the responsibility of the CRR to ensure that the safety recommendations issued by the RAIU (the NIB) are taken into consideration and acted on by the railway organisations.

The CRR meets quarterly with the larger RUs and IM to review their safety performance in the preceding quarter. A standing item on the agenda is to review progress implementing NIB Safety Recommendations.

The status of current safety recommendations issued by the NIB-IE is detailed below.

Table 1 - Status of NIB safety recommendations

		NIB Safety Recommendations			
Year	Reports	Open	Complete	Closed	Total
2010	6	1	0	25	26
2011	6	1	3	13	17
2012	3	1	0	12	13
2013	3	1	0	9	10
2014	6	4	1	22	27
2015	2	2	0	2	4
2016	3	11	0	9	20
2017	1	5	0	4	9
2018	1	8	0	0	8
		34	4	96	134

3.3. Safety Organisational context

The CRR continued to receive the majority of its funding through the annual levy that the CRR places on the entities that are subject to regulation. The levy is allocated on the basis of the level of authorisation or supervision that each entity will be subject to in that year. The balance was received as Grant-in-Aid from the Department of Transport, Tourism and Sport.

3.3.1. Railway organisational context in the Member State and main changes

No changes in 2018.

3.3.2. Information relating to the NSA organisation and main changes

No changes in 2018. The organisational structure of the CRR remained unchanged. No inspector resigned and none was appointed in 2018.

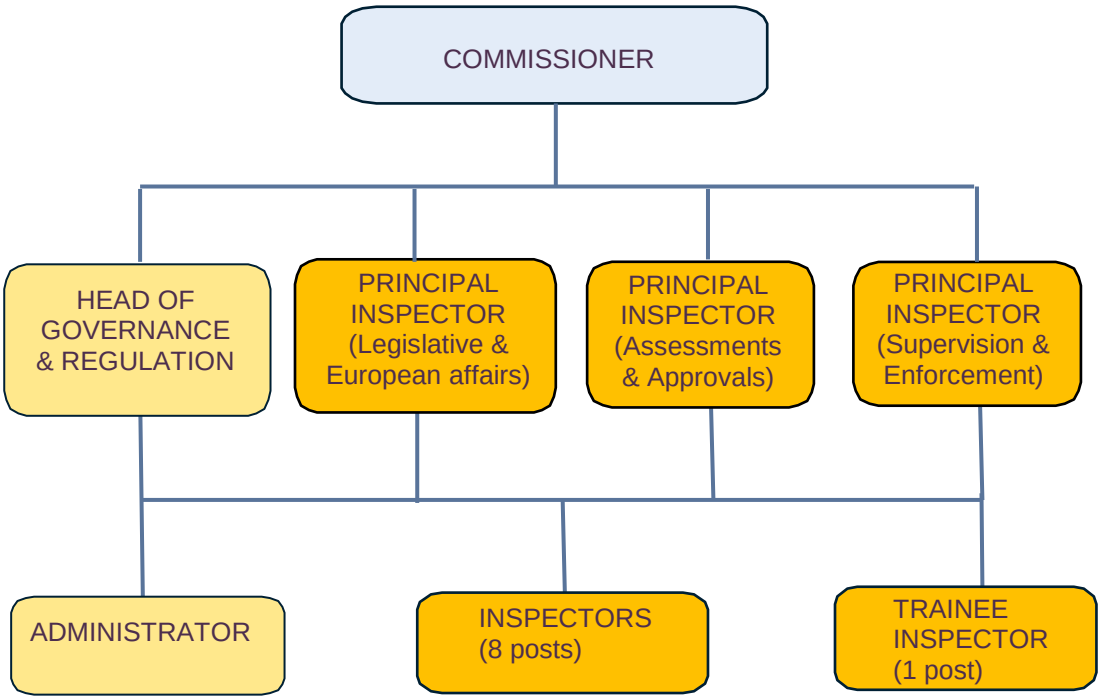

Figure 1 - Staffing of the CRR at end of year 2018

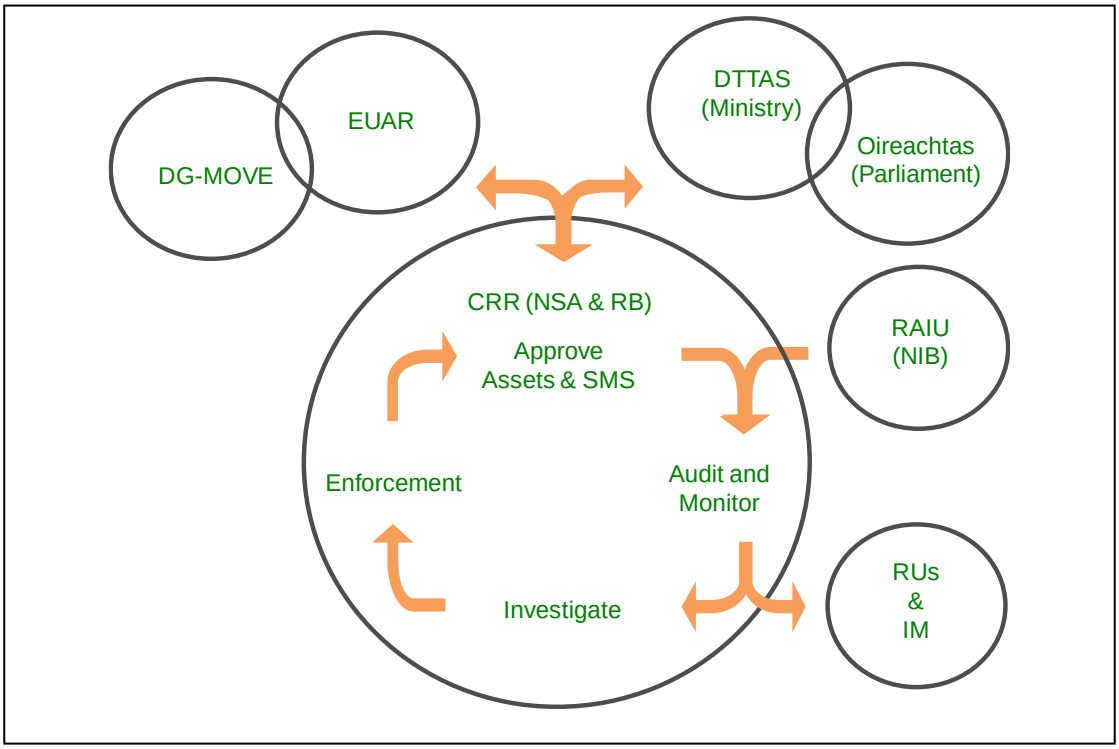

Figure 2 Organogram of independent CRR organization and primary workflows

3.3.3. NSA staff and the NSA competence management system

(Only staff dealing with railways is included), with a focus on staff dealing with the following activities: issuing Single Safety Certificate, Vehicle Authorisation, Supervision and Train Driver`s licenses).

EU training is planned for year 2019 in regard to revised functions under the fourth railway package.

4. Safety performance

Reference to requirement: art. 19 (a) of Directive (EU) 2016/798

4.1.1. Statistics and analysis of general safety performance trends

This chapter uses the CSIs and national safety indicators when considering the reasons and phenomenon behind the recent safety development. National safety indicators are shown in the CRR's Annual Railway Safety Performance report which is published separately.

The Irish network accounts for a very small proportion of total EU railway traffic, with 18.59 million train-km (0.4% of EU) and 2281 million passenger-km (0.4% of EU) recorded for year 2018. It is predominantly a passenger railway, with only 88.55 million freight tonne-km (0.03% of EU) recorded for year 2018, an annual decrease of 12.7%.

It continues to have relatively low accident rates per million train-km. Although it is difficult to pick up significant trends in the CSI accidents as the dataset is very small, there had been an underlying decline in the five-year rolling average number of reported significant accidents. However, six significant accidents were recorded for year 2018, which is higher than recent years. This was due to the strict application of the CSI definition relating to the classification of 'other' events leading to extensive disruption to traffic.

The overall picture of safety in the rail industry is a good one, with most indicators trending positively.

The Common Safety Indicators (CSIs)[2] for Ireland are available on the E-RAIL website. The following is an analysis of trends related to CSIs and national safety indicators:

4.1.2. Number of fatalities/serious injuries (total and relative to train-km).

There were no fatal accidents to persons on the railway in 2018. Nine other fatalities appear to have been due to an attempt at self-harm.

The CRR has not received all verdicts of coroner's inquest into the fatalities occurring in 2018, so our classification is based on information received from the RU involved.

Separate to the fatalities, one employee was detained in hospital following a collision of his train with a large vehicle at a level crossing. There were no other passenger or employee serious injuries in 2018 involving a train movement or train accident. The Irish network continues to have a satisfactory performance relative to other European national networks, although it is recognised that there is always scope for improvement.

4.1.3. Number of significant accidents (total and relative to train-km).

In 2018, there were six significant accidents, including five incidents with extensive delays to trains and one serious injury to an employee. The 5-year average rolling trend for significant accidents was been consistently positive since 2011, but the increase for 2017 and 2018 is worthy of note.

4.1.4. Number of precursors to accidents.

The number of precursor events in 2018 was mixed, with an increase in the number of reported Signals Passed at Danger (SPADs) from 9 in 2017 to 13 in 2018. There were two cases in 2018 where the danger-point was passed, compared with three cases in 2017.

Overall, there had been a long-term decline in the number of SPADs in the Irish network. This SPAD rate average was 0.7 SPADs per million train-km between 2013 and 2018. Although this baseline exceeds the average reported EU rate of 0.5 SPADs per million train-km, reports for the past five years indicate that about one-in-seven of IE SPADs had passed the danger-point, compared with one-in-three of EU SPADs. This

[2] *CSIs as defined in Annex I and in Appendix to Annex I of Railway Safety Directive (EU) 2014/88.*

indicates that the frequency of more serious SPADs in Ireland is somewhat less than the EU average and shows a relatively good detection and reporting rate for the less serious SPAD events.

4.1.5. Cost of significant accidents.

There were six significant accidents on the Irish network in 2018, which is more than normal. This reflects conformity with the requirement to report incidents causing serious disruption to railway traffic. The CSI estimated economic impact of significant accidents for 2018 was €0.533 million, since there were no fatalities and just one significant injury.

4.1.6. Technical safety of infrastructure and its implementation, management of safety.

There has been no change in the percentage of tracks with Train Protection Systems (TPS) or Automatic Train Protection (ATP) over the past five years. A limited type of automatic train protection is available on 99 track-km (4.6%) of the Irish network: this DART-ATP system is now classified as a 'TPS with speed control', because the system requires driver intervention during operations and does not reach all ATP criteria.

A further 900 track-km (41.6%) of the network is equipped with a TPS called the Continuous Automatic Warning System (CAWS). However, the remaining 1,166 track-km (53.8%) of the network is not equipped with any form of TPS or ATP system.

The underlying number of railway level crossings on the active network has been relatively unchanged over the past four years. The number of level crossings on the active railway at the end of 2018 stood at 931. Continued investment in this area has been focussed on rail-side protected level crossings where the labour-intensive manually-worked gates are being replaced by remotely-worked full-barriers.

Regarding the EU CSIs relating to the management of safety, the RUs and IM normally achieve the safety audit targets which they set out for themselves. For example, IÉ-IM completed 13 audits and IÉ-RU completed 18 audits in 2018.

4.2. Impact of accidents

Similar to preceding years, the year 2018 was generally positive in terms of train accidents and there were no passenger or rail-worker fatalities. However, there was one significant train accident, where a passenger train struck a large vehicle at a passive level crossing and the driver was detained in hospital. One trespasser was injured when struck by a train while crossing the tracks at a station during snowy weather, but left the scene of the accident and could not be traced.

There were five other occurrences (excluding self-harm) where train services were significantly disrupted. These were due to a landslip that undermined the track bed, a washout of formation due to flooding, a tear-down of overhead power line in a remote location, a fire in a signal equipment room, and an incident where a herd of cattle was hit by a train.

4.3. Interventions and their effects

The Irish national CSI data for 2018 may be found on the ERAIL system.

Ireland has a small network with relatively few accidents, so one must generally look back more than five years to identify trends. A number of national performance indicators for the years 2004-2018 are shown in Appendix 4 of the CRR's published annual report for 2018, and further information appears in the CRR's annual statistical report entitled 'Railway Safety Performance in Ireland'.

National indicators are reviewed below in regard to train collisions, signals passed at danger, train derailments, bridge strikes, trespass and personal injury to customers.

In regard to **collisions**, there was a sharp decline in train collisions with the gates of a level crossing since 2010, due to the ongoing programme of replacement of manually worked gates with remotely worked full-

barriers. A notable decline in collisions with large animals coincides with improved fencing and farm level crossings, although the presence of wild deer on the line is prevalent and accounts for three-quarters of all animal strikes.

In regard to **SPADs**, there was a continual decline since 2003 which seems to have levelled off about 2010. This decade, the installation of a train driver's physical reminder device to help protect against starting off against a red signal helped to improve drivers' operational performance and may have prevented some SPADs.

In regard to **derailments** affecting running lines and derailments in sidings, a marked decline coincided with the dramatic loss of freight traffic more than a decade ago.

The trend in railway **bridge strikes** by road vehicles is a national safety indicator. Over the past 5 years, bridge strikes appear to have plateaued against a backdrop of rising road vehicle traffic. The total in 2018 was 95, compared to 84 in 2017 and 93 in 2016. Even though economic activity has returned to the level experienced in 2005, the under-bridge strike rate in 2017 was 65% less than in 2005. This indicates success in the avoidance of such accidents through infrastructure improvements (e.g., bridge elevation and town bypasses), traffic-diversion (e.g., embargo on HGVs in Dublin city centre) and better communication interventions (e.g., advance-warning signage) brought about with the effective cooperation of the IM, CRR, Garda, Road Safety Authority, road authorities and road hauliers.

The number of fatal injuries to persons involving rolling-stock in motion on railway or level crossing where **trespass or suspicious death** was indicated, showed no change from 9 in 2017 to 9 in 2018. The CRR encourages IÉ-RU, the State railway undertaking, to address this matter by identifying locations at potential risk. IÉ-RU works closely with organisations such as the Samaritans and awareness and outreach campaigns are run from time to time.

The IE-RU reported 223 personal injuries to **customers**, including 46 on board trains and 74 boarding or alighting at the platform interface.

5. EU legislation and regulation

Reference to requirement: art. 19 (b) of Directive (EU) 2016/798 and art. 19 (e) of Directive (EU) 2016/798.

5.1. Changes in legislation and regulations

5.1.1. Important changes in the implementation of the EU legal framework

(e.g. RSD, IOD, other relevant Directives, Regulation and Secondary legislation, including the change in the scope).

Ireland announced in December 2018 that it would not be in a position to transpose the Directives (EU) 2016/797 and (EU) 2016/798 by 16th June 2019.

5.1.2. Eventual amendments necessary in order to achieve CSTs

(art. 4(1) point f, art. 7(7) of the Directive (EU) 2016/798)

A need to amend national safety rules was identified in regard to the current procedures used to collect samples for the purpose of drugs and alcohol testing of railway staff.

5.1.3. Review of the operational companies' implementation of new EU regulatory framework

(concerning rolling stock, infrastructure, staff performing safety-critical tasks, staff competencies and training).

Not applicable for 2018.

5.1.4. Changes in legislation/regulation following the recommendations and opinions of the Agency pursuant to RSD

(*art. 32 of the Directive (EU) 2016/798 and art. 13 of the Regulation EU 2016/796)*

No changes.

5.1.5. Changes in legislation/regulation following the NIB Safety Recommendation

(art. 26(2) of the Directive (EU) 2016/798)

No changes.

5.1.6. Changes/amendments to the national legal framework relating to railway safety

(legal acts and administrative regulations).

No changes.

5.2. Derogation from RSD system of certification of ECM

5.2.1. Derogations decided in accordance with Article 15 Directive (EU) 2016/798

(Derogations from the system of certification of Entities in Charge of Maintenance (ECM)).

Nothing to report.

5.2.2. Information according to art. 15(3) of the Directive (EU) 2016/798.

Nothing to report.

6. Safety Certifications, Safety Authorisations and other certificates issued by the NSA

Reference to requirement: art. 16 of the Directive (EU) 2016/798, art. 19 (c) of the Directive (EU) 2016/798, art. 24 of the Directive (EU) 2016/797, art.7 of the Commission Regulation No 445/2011, art.14 of the Directive 2007/59/EC and art. 20 of the Directive 2007/59/EC).

6.1. Safety Single Certificates and Safety Authorisations

6.1.1. Status and changes to the number and awardees of safety certificates and safety authorisations

Number and awardees *(names of the companies)* of new safety certificates,		0
Number and awardees of renewed safety certificates,	Iarnród Éireann NIR Translink	2
Number and awardees of amended safety certificates *(e.g.: for extensions or reductions in scope…)* and main issues faced.		0
Number of revoked safety certificates and main reasons.		0
Number and awardees of new safety authorisations,		0

Number and awardees of renewed safety authorisations,	Iarnród Éireann	1
Number and awardees of amended safety authorisations *(e.g.: for extensions or reductions in scope …)* and main issues faced		0
Number of revoked safety authorisations and main reasons		0

6.1.2. Changes to strategy and procedure related to the process of issuing Safety Single Certificate/ Safety Authorisation

(shall only be included if relevant)

No change

6.1.3. Outcomes of discussions of supervision results with other NSAs in the context of certification/authorisation

(where appropriate).

No activity

6.2. Vehicle Authorisations

6.2.1. Status of the number and awardees of Vehicles Authorisations (VA) during the reporting year

Number and awardees (names of the companies) of new issued VA,		0
Number and awardees of modified and/or renewed VA and main issues faced		0
Number of suspended VA and main reasons		0
Number of withdrawn VA and main reasons.		0

6.2.2. Changes to strategy and procedure related to the process of Vehicle Authorisation

(shall only be included if relevant).

No change

6.3. Entities in Charge of Maintenance (ECM)

For derogations the CRR provides information according to Article 15(3) of the Directive (EU) 2016/798 in paragraph 5.2 above.

The CRR in its role as a certification body for ECM, reports as follows:

6.3.1. Certificates issued, amended, renewed, suspended, and revoked during the reporting year

(Commission Regulation No 445/2011, art.7)

Zero

6.3.2. In case of suspended or revoked certification please describe the main causes/reasons

Zero

6.3.3. Report of non-conformities which have been detected by the NSA during its surveillance activities

Zero

6.3.4. Changes to strategy and procedure related to the process of ECM certification

(*shall only be included if relevant*)

Zero

6.4. Train drivers

6.4.1. Train driver licenses issued, amended, renewed, suspended, withdrawn during the reporting year (Directive 2007/59/EC, Art.14)

(in cases of suspended or withdrawn licenses please describe the main causes/reasons)

540 is the quantity of train driver licences issued

6.4.2. Training centres recognized during the reporting year (Directive 2007/59/EC, Art.20 and Art.23(6))

(in case where the national legislation provides that the NSA is the competent authority)

Zero

6.4.3. Changes to strategy and procedure related to the process of train driver licensing

(*shall only be included if relevant*)

Zero

6.5. Other type of authorisation/certifications

6.5.1. Cases where NSA acts as certification body for other type of railway authorisations/certification

(e.g. placing into service of railway subsystems as well as fixed structural subsystems, signaling products, etc.).

Three Certificates were issued by the NSA when acting as Designated Body for the INF Subsystem

6.6. Contacts with other National Safety Authorities

6.6.1. Cooperation with foreign safety authorities

(in particular regarding certification/ authorisation, where appropriate, in cross-border transport).

The CRR in 2018 engaged with stakeholders in relation to Brexit and the CRR's information to relevant stakeholders and the impact of a no deal Brexit on EU railway undertaking licencing, driver licencing and certification in the context of EU rules in the field of rail transport.

6.6.2. Outcomes of discussions of supervision results with other NSAs

(in the context of certification/ authorisation, where appropriate).

There was nothing the CA/APIS Team provided to the supervision team that prompted any activity that involved another NSA.

6.7. Exchange of information between NSA and railway operators

Nothing to report.

6.7.1. Exchange of information between the NSA and RU/IM

(describing the scope, the frequency and how the exchange is done)

Nothing to report.

6.7.2. Topics/critical points exchanges/discussed for the reporting year

Nothing to report.

6.7.3. Relating findings and initiatives

Nothing to report.

7. Supervision

(Reference to requirement: art. 19 (d) of Directive (EU) 2016/798 and Commission Delegated Regulation EU 2018/761).

7.1. Strategy, plan, procedures and decision making

Please provide the following information:

7.1.1. Supervision strategy and procedure, and their relevant changes

(including input for planning (e.g. data concerning CSIs, input from Safety Recommendations, etc.)

The primary supervision related task of the CRR is to supervise the continued application and effectiveness of each RU and IM safety management system, while fostering and encouraging railway safety at all levels within each organisation. The CRR has an overarching Annual Supervision Programme that is updated every year based on experience from the previous year.

These plans are developed by the CRR Inspectors coming together at an annual workshop to discuss the safety performance of each individual railway organisation supervised. In terms of a plan's execution, activities are prioritized based on risk meaning those Railway Undertaking and Infrastructure Manager that have a greater exposure to risk can expect more engagement with the CRR than those organizations with limited exposure.

Plans include audits, inspections and meetings with senior managers from the various railway organisations. These supervision activities produce constructive outcomes including actions to address identified non-compliances and areas where preventative action is necessary.

The CRR has supervision plans for the following railway organisations:

- Iarnród Éireann (IÉ-IM) – Infrastructure Manager
- Iarnród Éireann (IÉ-RU) – Railway Undertaking

- Balfour Beatty Rail Ireland (BBRI)– Railway Undertaking
- Railway Preservation Society of Ireland (RPSI)– Railway Undertaking
- Northern Ireland Railways (Translink) – Railway Undertaking (Part B only).

7.1.2. Comment on the global risks of the railway system in the Member State

The state railway defines global risks into 3 categories. These are:

- Prime: accidents entirely within the state railway (RU and IM) control
- Shared: accidents influenced both by the state railway (RU and IM) and the person who experiences the accident
- Illegal: accidents where the person who suffers the accident is acting illegally.

The principal risk areas, total risk and prime risk identified by the state railway undertaking and infrastructure manager include the following:

5 Highest - by Total Risk	5 Highest - by Prime Risk
1. Platform-Train Interface 2. Slips, trips and falls 3. Trespass/train surfing 4. Collision between train 5. Derailment	1. Derailment 2. Collision between train 3. Structural failure 4. Train/object collision 5. Train / vehicle LX accident

The highest risks (Total Risks 1-4) are typically high-frequency, low-consequence events. That said given the relative size of the Irish Railway Network the number of occurrences is small. Prime risks are typically those low-frequency, high-consequence events. However, the State RU and IM have suffered very few serious accidents in recent times with just one low speed passenger train derailment in 2018, which resulting in only very minor injuries.

7.1.3. Indicate how the supervision strategy addresses those risks in consideration also of the CSTs

The number of occurrences are small given the network size and number of passengers carried is low, relatively speaking. There were no passenger or employee fatalities in 2018 but nine people lost their lives as a result of unauthorised entry onto railway premises, the same as in 2017. There were no reports of deaths at level crossings.

The ERA defines 6 risk areas under which the CSTs sit. These are:

- passengers
- employees
- level crossing users
- others
- unauthorised persons on railway premises
- whole society

Each year, the ERA publishes an assessment of achievement of safety targets by Member States. This normally refers to statistics for the second year previous. Within the confines of the CSTs and with respect to its National Reference Values, Member State Ireland normally achieves a ‘passed’ result in European terms for the above risk categories considered, indicating acceptable safety performance.

Given the above, the CSTs did not influence the CRR's supervision strategy. Nonetheless, the CRR undertook its inspections of assets including level crossings, structures and stations. CRR Inspectors also travelled in the cabs of trains, on occasion, observing Train driver behaviour and monitoring third party interfaces.

7.1.4. Link the decisions taken on the areas to focus on in supervision with an analysis of the risks and expected benefits from the activity

Supervision activities, including audits, inspections and meetings, were added to the particular supervision plan for each RU & IM to target those areas identified as posing risk to the safety of passengers, staff and third parties (specifically level crossing users).

One such example would be an audit of the Infrastructure Managers' Level Crossing Control Centres, in terms of the training and competence of the crossing controllers and the tasks they are expected to execute. The audit high-lighted to management the importance of on-going internal monitoring of performance, refresher training in safety critical communication and the importance of being ready to operate in times of degraded working.

Another audit this time on the state RU and specifically on one of their rolling stock depots identified shortcomings in terms of risk management. No evidence of a systematic risk assessment for the DMU Fleets was available. Issues logs existed, however, no list of potential (reasonably foreseeable) hazards and associated risks, and how they have been mitigated, were available.

7.1.5. Supervision plan, including changes to the plan during the year and impact on the next year supervision activities

A small number of changes to the 2018 supervision programme plans were necessary for various reasons including the availability of staff in regulated entities, new RU and IM standards being implemented after which determining compliance would be difficult etc.

In most cases the audit could be simply deferred or replaced with other supervision activities, e.g., inspections.

7.1.6. Decision-making criteria on how the NSA monitored, promoted and enforced compliance with the regulatory framework and the procedure for establishing those criteria

When it comes to enforcement the CRR adopts the principal of escalation meaning voluntary compliance is sought first. If an RU or IM take the necessary actions, then formal enforcement is not undertaken.

The CRR uses the risk-gap principle, i.e., how far is the regulated organisation from where they should be. If the gap is small (minor or moderate) then action plans are requested. If there is an 'absence' of, for example, a risk assessment then enforcement may be employed in the form or requesting Improvement Plans or serving Improvement Notices.

Relative to the national rail network, Section 76 of the RSA 2005, a request for Improvement Plan was used on 3 occasions in 2018. These were –

- 1 Improvement Plan was requested following an audit of Iarnród Éireann- Infrastructure's Level Crossing Control Centres;
- 1 Improvement Plan was requested following an inspection of IÉ-RU's management of operational risks;
- 1 Improvement Plan was requested following an inspection of CCR Inspection of IÉ-IM's Competence Management of Electrical Control Operators.

7.1.7. Main complaints submitted by stakeholders on decisions taken during supervision activities and the replies given by the NSA

Nil

7.2. Supervision results

7.2.1. Number and outcome of inspections and audits carried out during the reporting year

With regard to asset management, CRR inspectors undertook the following inspections in 2018:

- 12 stations
- 10 railway bridges
- 23 cab-rides
- 41 level crossings (ground level), more were observed whilst undertaking cab-rides.

These inspections resulted in a multitude of outcomes ranging from 'scope for improvement' where action is determined by the railway organisation to 'minor non-compliance' where evidence is sought by CRR inspectors to see that action has been taken.

With regards to audits, these are fewer in number given the greater resource requirement for such activities. The following tables present the number of audits carried out during 2018 together with the number of outcomes from each audit.

Table 2 - CRR Audits initiated in 2017 and finalised in 2018

Railway Organisation	Title of Audit	Major Non-Compliance	Minor Non-Compliance	Action Required
Iarnród Éireann-RU	Audit of the STMA of Persons engaged in operations Duties	0	3	1
Iarnród Éireann-RU	Audit of the Management of Shunting Risk	0	6	6

Table 3 - CRR Audits initiated and finalised in 2018

Railway Organisation	Title of Audit	Major Non-Compliance	Minor Non-Compliance	Action Required
Iarnród Éireann-IM	People & Location Audit - Level Crossing Control Centres	0	3	7
Iarnród Éireann-IM	An audit of the Signalling, electrification and Telecoms Department.	0	3	7
BBRI	Accident Investigation & Emergency preparedness	0	2	4

For those audits that were finalised in 2018, as indicated in the tables above no instances of major non-compliance were identified. Where the audit discovered minor non-compliances with law and/or an

approved SMS and the lead Inspector considered there was a risk to the safety of persons, the railway organisation concerned was requested to submit an Improvement Plan, in accordance with the requirements of Section 76 of the Railway Safety Act.

In the vast majority of cases the railway organisations concerned have already implemented or are in the process of implementing the agreed corrective and preventative actions from these audits.

7.2.2. Results of and experience related to the supervision

A significant inspection undertaken in 2018 was all passive level crossing on public roads were inspected. There is a total of 41 such crossing in the state and based upon experience are the category most at risk of an accident. Typically, there are a small number of collisions at this type of crossing every year, in the main, due to improper use by level crossing users. Key finding included:

- User worked level crossing gates are not a consistently effective control as misuse is clearly widespread. This raises the question of how to manage the risks associated with such crossings without requiring significant capital investment.
- The condition of the crossings (road surface, cattle grid, signage) is generally good.
- Many of the crossings appear to have usage, and therefore risk profiles, that have changed over time, some appear to be more frequently used (e.g. due to new/recent housing developments) some appear less frequently used (e.g. due to isolation by a new by-pass)

7.2.3. Supervision results by topic of supervision, including supervision of training centers and transport of dangerous goods

Nothing targeted on these in 2018.

7.2.4. Supervision results of the correct application by RUs/IMs and effectiveness of all processes and procedures in the management system according to Regulation (EU) 1078/2012[3]

(in particular, whether they investigate the root causes of accidents according to Directive (EU) 2016/798[4] and how)

All RUs and the State IM have adequate accident investigation standards as part of their approved SMS. The CRR meets quarterly with the larger RUs and IM to review their safety performance in the preceding quarter. A standing item on the agenda is to review recent accident and incidents and the railway organisations progress in terms of investigations.

State legislation requires that investigations by RUs and IMs be concluded and submitted to the CRR not later than 6 months after the date of the occurrence. The IM has been clearing a backlog of over 30 overdue investigations and having strengthened their investigation unit in 2017 are now down to circa 15 overdue reports. That said, the standard of RU and IM reports is much improved. Root cause is often not identified but the immediate cause, causal factors and underlying causes are routinely identified.

7.2.5. Evidence obtained in supervision activities, when an ECM is not compliant

(i.e., non-compliance with the requirements of Article 14 of Directive (EU) 2016/798 or with the certification requirements of Commission Regulation N°445/2011 Art.9)

No such evidence obtained.

[3] *Art 1 2(a) to check the correct application and the effectiveness of all the processes and procedures in the management system, including the technical, operational and organisational risk control measures.*

[4] *Article 9 para 3 The safety management system shall contain the following basic elements: (i) procedures to ensure that accidents, incidents, near misses and other dangerous occurrences are reported, investigated and analysed and the necessary preventative measures are taken.*

7.2.6. Comments on the success of the SMSs in controlling risks

(If there are issues please describe: how they are being addressed, which were the results compared with the expected planned outcome, what went well and what did not and why)

During the course of CRR supervision activities Inspectors in addition to checking compliance with standards, also check for areas of 'good practice'. The CRR defines 'good practice' as an area highlighted which, in the opinion of the CRR Inspector/Auditor, is good practice within the industry.

The CRR cited a number of 'good practice' items in 2018 across several railway organisations including:

- IÉ-RU District Traffic Executives adapted presentations on human factors delivered in other areas of the business and compiled a briefing for Shunting staff.
- IÉ-RU trainers arranged special trains for staff to practice 'pilot-working' which is a task that is infrequently carried out and therefore introduces risk.
- IÉ-IM encourage the reported of hazards in the Level Crossing Control Centres by providing several different mechanisms to report hazards.

7.2.7. Dialogue with the operational companies on specific topics and why and related results

Nothing to report.

7.3. Coordination and cooperation

7.3.1. Outcomes of discussions of supervision results with other NSAs

(where appropriate).

The CRR has a memorandum of understanding (MoU) with the Department for Infrastructure (DfI), the NSA in Northern Ireland. Information was shared following a CRR Audit of Northern Ireland Railway's (NIR's) Train Driver training & competence regime.

Additionally, the CRR made contact with the DfI following a number of wrong-side door failures on NIR trains. The CRR brought to the attention of our Northern Ireland NSA colleagues our concerns in relation to the 'Enterprise' Doors and the reliability of same. Moreover, the CRR suggested to the DfI that there is scope for improvement in NIR's supply chain management and supplier approvals and that they might wish to conduct some enquires / activity.

8. Application of relevant CSMs by RUs and IMs

Reference to requirement: art. 19 (f) of Directive (EU) 2016/798.

8.1. Application of the CSM on Safety Management System

8.1.1. Analysis of the application of the CSM on SMS by RUs and IMs

[e.g. if through an evaluation of the EMM the NSA identifies for RUs and IMs the need of specific training to develop Safety culture and/or address Human and Organisational Factors].

Not a specific activity. Safety Authorisations and Safety Certificates are issued once compliance with the CSMs is demonstrated.

8.2. Application of the CSM for Risk Evaluation and Assessment

8.2.1. Analysis of the application of the CSM for Risk Evaluation and Assessment by railway operators

This CSM is being applied by the railway undertakings and by the infrastructure manager, as evidenced in their annual reports.

8.2.2. Evidence of implementation by railway operators of CSM on Risk Evaluation and Assessment and feedback on their application

The CSM is being implemented. For example, in 2018 the principal RU reported four projects to be significant for the purposes of applying the CSM-REA and the IM reported eight projects to be significant in this regard.

8.2.3. Status on the implementation process including changes to strategies and new initiatives introduced

No change.

8.3. Application of the CSM for Monitoring

8.3.1. Analysis of the application of the CSM for Monitoring by railway operators

This CSM is being applied by the railway undertakings and by the infrastructure manager, as evidenced in their individual annual reports.

8.3.2. Evidence of the implementation of the CSM on Monitoring by railway operators and feedback on their application

The individual safety management systems of the RUs and IM provide for a process of auditing and monitoring in compliance with the CSM for Monitoring.

8.3.3. Status on the implementation process including changes to strategies and new initiatives introduced

No change.

8.4. Participation and Implementation of EU projects

Nothing to report.

9. Safety Culture

9.1. Safety culture evaluation and monitoring

9.1.1. Evaluation and monitoring of the development of safety culture at the national level

(i.e. the safety culture of the whole railway sector)

The CRR has undertaken high level evaluations of strategic management that has included looking at safety culture within the management grades of certain railway undertakings and infrastructure managers in recent years. In 2018 we participated on the ERA Safety Culture Task Force and will be participating in trialling the draft European Railway Safety Culture Model in 2019.

9.1.2. Use of safety culture models or conceptual frameworks to support regulatory oversight of safety culture

In 2018 we participated on the ERA Safety Culture Task Force and will be participating in trialling the draft European Railway Safety Culture Model in 2019.

9.1.3. Evaluation method to oversee safety culture of RUs and IMs

In 2018 we participated on the ERA Safety Culture Task Force and will be participating in trialling the draft European Railway Safety Culture Model in 2019.

9.1.4. Summary of activities relating to safety culture included in the planning and execution of supervision and results of those activities

(either general or dedicated to safety culture topics – with the related tools, procedures, evaluation methods put in place).

Nothing to report.

9.2. Safety culture initiatives/projects

9.2.1. Initiatives/ projects undertaken by the NSA or within the national sector which contribute to the development of a positive safety culture

(e.g. this might include activities like the promotion of a (national) safety culture declaration or dissemination actions (such as dedicated conferences, workshops, training activities, programmes or projects)).

Nothing to report.

9.2.2. If safety culture is a separate project for the NSA, description of the project carried out

(dedicated team, expertise of the people involved, etc.)

Nothing to report.

9.2.1. Initiatives implemented within the NSA to improve its own safety culture

Nothing to report

9.3. Safety culture initiatives, projects and communication

9.3.1. Communication activities to the public/stakeholders relating to the safety culture activities performed

Nothing to report.

10. Theme chapter

Nothing to report, concerning activities that have not been described in previous chapters and that are considered focus areas for the NSAs.

ANNEX: Progress with Interoperability, 2018

Please provide the following information as it is at the 31st December of the reporting year.

Please refer to the Appendix for definitions.

1. Lines excluded from the scope of IOP/SAF Directive (end of year)

1a	Length of lines excluded from the scope of application of the IOP Directive [km]	0
1b	Length of lines excluded from the scope of application of the SAF Directive [km]	0

Please provide the list of lines excluded:

2. Length of new lines authorized by NSA (during the reporting year)

2a	Total length of lines [km]	0

3. PRM adapted stations (end of year)

3a	PRM TSI compliant railway stations	-
3b	PRM TSI compliant railway stations - partial TSI compliance	-
3c	Accessible railway stations ('step-free' access to platforms)	110
3d	Other stations (i.e., where all or part of station is not 'step-free')	34

4. Train driver licenses (end of year)

4a	Total number of valid European licenses issued in accordance with the TDD	540
4b	Number of newly issued European licenses (first issuance)	540

5. Number of vehicles authorized under the interoperability Directive (EU) 2008/57 (during the reporting year)

5a	**First authorization - total**	0
5aa	Wagon	0
5ab	Locomotives	0
5ac	Hauled passenger vehicles	0
5ad	Fixed or pre-defined formation	0
5ae	Special vehicles	0
5b	**Additional authorization - total**	0
5ba	Wagon	0
5bb	Locomotives	0
5bc	Hauled passenger vehicles	0
5bd	Fixed or pre-defined formation	0
5be	Special vehicles	0
5c	**Type authorization - total**	0
5ca	Wagon	0
5cb	Locomotives	0
5cc	Hauled passenger vehicles	0
5cd	Fixed or pre-defined formation	0
5ce	Special vehicles	0
5d	**Authorizations granted after upgrade or renewal - total**	0
5da	Wagon	0

5db	Locomotives	0
5dc	Hauled passenger vehicles	0
5de	Fixed or pre-defined formation	0
5df	Special vehicles	0

6. ERTMS equipped vehicles (end of year)

6a	Tractive vehicles including trainsets equipped with ERTMS	0
6b	Tractive vehicles including trainsets – no ERTMS	0

7. Number of NSA staff (full time equivalent employees) by the end of year

7a	FTE staff involved in safety certification	3
7b	FTE staff involved in vehicle authorization	2
7c	FTE staff involved in supervision	6
7d	FTE staff involved in other railway-related tasks	4

Appendix to ANNEX: Applicable definitions - Progress with Interoperability

Applicable definitions are those contained in the relevant articles of the legal documents.
In addition the following definitions apply:

1. Lines excluded from the scope of IOP/SAF Directive (end of year)

Railway lines excluded by the Member States from the scope of the application of RSD/IOD: DIRECTIVE (EU) 2016/797, Art. 4 a-d; DIRECTIVE (EU) 2016/798, Art. 3 a-d, as of 31.12.20xx (reporting year).

2. Length of new lines authorized by NSA (during the reporting year)

Length of lines constituting the Union rail system authorized for placing in service in accordance with Article 18(2) of Directive (EU) 2016/797 during the reporting year.

3. PRM adapted stations (end of year)

Railway stations as of 31.12.20xx (reporting year), that complies with the requirements of the Commission Regulation (EU) No 1300/2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility (PRM TSI).

Full TSI compliance means full conformity with PRM TSI requirements, as demonstrated with the NoBo certificate. Partial TSI compliance means conformity with some (but not all) PRM TSI requirements, as demonstrated with the NoBo certificate. Accessible station means a station considered accessible under national legislation. (No NoBo certificate available.).

Railway station means a location on a railway system where a passenger train service can start, stop or end.

4. Train driver licenses (end of year)

Newly issued and valid driver licenses as of 31.12.20xx (reporting year), issued in accordance with the Directive 2007/59/EC of the European Parliament and of the Council of 23 October 2007 on the certification of train drivers operating locomotives and trains on the EU railway system.

5. Number of vehicles authorized under the interoperability Directive (EU) 2008/57 (during the reporting year)

The number of issued, renewed and amended vehicle authorizations for placing on the market in accordance with Article 21(8) of Directive (EU) 2016/797 during the reporting year.

5. ERTMS equipped vehicles (end of year)

Number of operated tractive vehicles (owned, leased, and rented minus rented-out) equipped with ETCS.

Vehicles without power units are excluded. Multiple units to be counted once. Includes only vehicles which are operated to transport freight or passengers. Yellow fleet and other IM vehicles are not included. Includes only vehicles which are registered in the country of main business activities of RUs.

7. Number of NSA staff (full time equivalent employees) by the end of year

Total number of full time equivalent NSA employees as of 31.12.20XX (reporting year).

Only staff dealing with railways is to be included.