



Annual Report 2018

Rail Safety Investigations

Dutch Safety Board

Published in accordance with Directive 2016/798/EC

The Hague, September, 2019

*The reports issued by the Dutch Safety Board are made publicly available on the Safety Board's website
www.safetyboard.nl*

The Dutch Safety Board

When accidents or disasters happen, the Dutch Safety Board investigates how it was possible for these to occur, with the aim of learning lessons for the future and, ultimately, improving safety in the Netherlands. The Safety Board is independent and is free to decide which incidents to investigate. In particular, it focuses on situations in which people's personal safety is dependent on third parties, such as the government or companies. In certain cases the Board is under an obligation to carry out an investigation. Its investigations do not address issues of blame or liability.

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1 INTRODUCTION

Each year, in accordance with the European Railway Safety Directive, the Dutch Safety Board publishes an annual report summarising its activities in the domain of rail traffic.

Besides the present report covering 2018, the Dutch Safety Board publishes its corporate Annual Report covering all investigation areas (including rail) as well as organisational and financial developments. The Annual Report 2018 is available on our website: www.safetyboard.nl.

2 THE DUTCH SAFETY BOARD

2.1 Legal Basis

The Kingdom Act instituting the Dutch Safety Board came into force on 1 February 2005. The Dutch Safety Board has a broad legal mandate. Apart from rail accidents and incidents, occurrences in all other transport sectors are covered. Moreover, safety investigations are performed concerning non-transport issues such as food safety, accidents in the industry (including construction) and crisis management.

The Board has specific and extensive legal powers when it comes to the performance of its investigations. The Kingdom Act sets out strict safeguards for the independence of the Board and for the protection of information. Note that any information gathered in the course of an investigation will not be passed on to third parties. The competencies of the Dutch Safety Board's investigators are regulated in the Kingdom Act. The essence of the Act is that investigators must be given the greatest possible access to all relevant information. They are allowed to enter buildings in order to gather information, which may include radar images, tape recordings, documents and witness statements, and they may take items with them for further investigation. In addition, the investigators can stipulate that wreckage left after an accident should not be removed from the scene straight away, and that during the initial phase of an investigation the accident site should as far as possible be left in its original state. Naturally, the victims' needs and the provision of aid will take precedence at all times, as do efforts to limit the damage done to equipment and the harm done to the environment. Where possible, the Board's investigators will utilise information on an incident that has been compiled by the police and the judicial authorities. In contrast, the Dutch Safety Board's investigators do not give any information to the police or the judicial authorities.

2.2 Purpose of investigation

In accordance with the Kingdom Act Dutch Safety Board and with applicable EU law, the purpose of the Dutch Safety Board's work is to prevent similar incidents from happening in the future. Accordingly, the Board's investigation aims not only to uncover the actual causes of incidents but also – and in particular – to bring to

light the underlying causes of the incident, so that any shortcomings in the applied system can be revealed. If the investigation reveals any systematic safety-related shortcomings then the Board will formulate recommendations so that these shortcomings can be put right. In rail investigations, recommendations are usually addressed to the competent authorities and to organisations and companies active in the field.

The Board would like to emphasize that issues of blame or liability are not part of its legal mandate. Information gathered during the course of an investigation – including statements provided by the Board, information that the Board has compiled, results of technical research and analyses and drafted documents (including the published report) – cannot be used as evidence in criminal, disciplinary or civil law proceedings.

2.3 Organisation

The Dutch Safety Board consists of a Board with three permanent members. The Board is supported by a bureau consisting of support staff and some 45 investigators, three of them working for rail investigations.

The overall budget of the Safety Board in 2018 was € 12,6 mln.

3 INVESTIGATION PROCESS

3.1 Occurrences to be investigated

Cases to be investigated are accidents where the safety of passengers and staff members, level crossings, infrastructure, rolling stock, safety of protective systems or external safety (the risk for neighbours or the environment in case of accidents with dangerous goods or serious derailments) is involved.

Mandatory investigations are those occurrences that qualify as ‘serious accidents’: any train collision or derailment of trains resulting in the death of at least one person, serious injuries to five or more persons, or damage of at least EUR 2 million to rolling stock, the infrastructure or the environment, and any other accident with the same consequences which has an obvious impact on railway safety regulation or the management of safety.

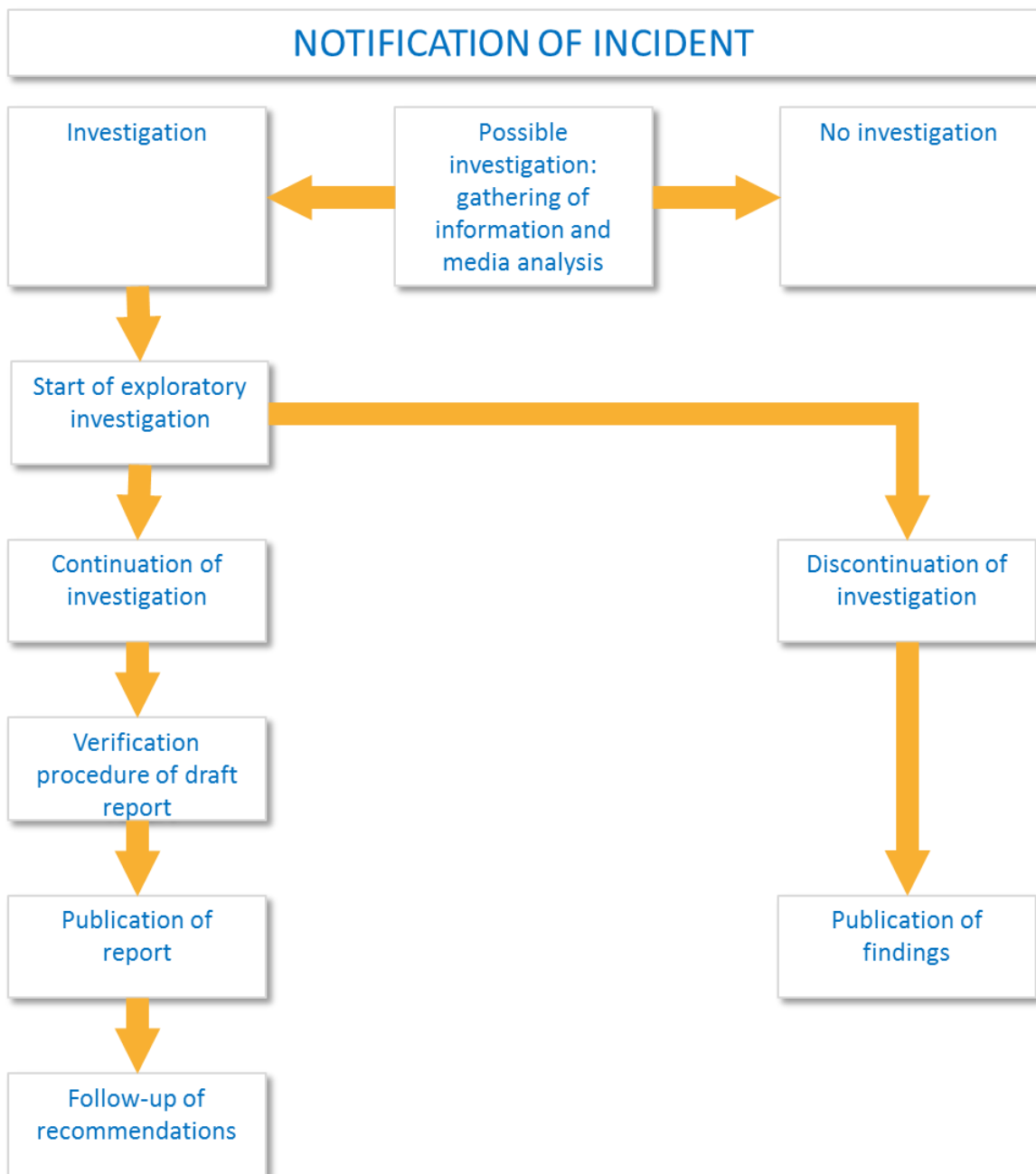
In addition to these legal considerations, and given the limited capacity, the Dutch Safety Board has developed criteria to select the occurrences to be investigated. An important criterion is the question whether something could be learned from the accident, i.e. whether any systemic failures are thought to have contributed to the accident. The objective is to investigate those accidents where the Board’s added value is greatest.

Note that for all incidents, there may be official bodies other than the Board – such as inspectorates and judicial authorities – who are carrying out their own investigation. In addition, and in accordance with the Board’s philosophy, the parties directly involved will normally carry out their own investigation.

3.2 Investigation and reporting

Once the decision is taken to investigate an accident, the investigation formally starts. The investigation process itself can be broken down into a number of phases: after an incident, the first stage is always to set in motion an exploratory investigation – which will take no longer than one or two months – in order to establish whether there is a systematic safety shortcoming worthy of a full investigation by the Board. Note too that the occurrence of a series of incidents

may be reason to launch an investigation. In the next phase, a plan of action is drawn up. The investigation itself will result in a (draft) final report that after verification by the parties involved will be published. All reports of the Dutch Safety Board are available on its website: www.safetyboard.nl



A special guidance committee is set up to aid each investigation. A guidance committee consists of external experts and is presided by a Board Member. It advises about the set-up of an investigation, the conclusions and recommendations. It is the Board which finally decides on the content of the reports.

Once the report has been published and sent to those to whom the recommendations are addressed, these stakeholders will be given a maximum of six months (in the case of government institutions) or twelve months (in the case of private organisations) to respond. The response has to be sent to the minister responsible for the relevant operational sector. A copy of this response must be sent simultaneously to the chairman of the Dutch Safety Board and to the Minister of Security and Justice. In this way, the appropriate ministry can fulfil its legal duty to monitor the follow-up actions taken in the light of the Board's recommendations.

Pursuant to the European Railway Safety Directive¹, the Dutch Safety Board's safety recommendations are to be addressed to the national safety authority (ILT) or to other bodies or authorities in the Netherlands or to other Member States. Parties to whom a safety recommendation has been addressed, shall report back on the measures taken. The ILT monitors the follow-up of the safety recommendations issued in the rail safety investigation reports of the Dutch Safety Board addressed to private parties.

All responses to the Board's safety recommendations are published on our website, accompanied by the Board's assessment of the degree in which these recommendations have actually been followed up.²

¹ Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety, as implemented into Dutch law in the 'Besluit Onderzoeksraad voor Veiligheid'.

² www.onderzoeksraad.nl

4 RAIL INVESTIGATIONS

4.1 Investigations started in 2018

In 2018 no railway safety investigation was started.

4.2 Summary of investigations completed in 2018

In 2018, one railway safety investigations was completed: a thematic investigation into level crossing safety.

Level crossings are dangerous

Level crossings are a familiar but also dangerous component of the Dutch landscape. Level crossings are an at-grade intersection between a railway line and a road, where the train always has priority. They originate from a time when trains ran slowly, there was limited road traffic and crossing-keepers fully closed the track by hand for safety. The crossing-keepers are gone now, trains have become much faster and quieter and there is much more road traffic crossing the railway. Trains travel at 140 km/h and it is impossible for them to stop in time or take evasive action. Collisions with pedestrians, cyclists or drivers are often fatal.

Focus on level crossing safety is waning

There are approximately 30 level crossing collisions every year and 11 people unintentionally lose their lives in level crossing accidents. This is fewer than 15 years ago, when the Dutch Transport Safety Board published a critical report on level crossing safety. The Safety Board believes this improvement in safety is positive but notes that the focus on and ambitions for level crossing safety at the responsible Ministry have waned: since 2010, the Ministry of Infrastructure and Water Management has not had a concrete objective for reducing the number of level crossing casualties and, moreover, local authorities are expected to pay 50% of the costs, even though they have no formal responsibility for level crossing safety. In a recent letter to the House of Representatives,¹ the State Secretary for Infrastructure and Water Management wrote about releasing more funds to tackle level crossings, which the Safety Board considers a positive development.

Nonetheless, the State Secretary wrote that she is sticking to the policy currently being pursued. This does not resolve the protracted administrative impasses that

arise when improving level crossing safety – which the Dutch Transport Safety Board also noted 15 years ago. All of this is reflected in the figures: the curve for the number of level crossing casualties is levelling off, while it was clearly downwards prior to 2010.

The Ministry's attention is not appropriate for the situation on the Dutch railways. The Netherlands is the only country in Europe with both a high volume of train traffic and a large number of level crossings, a combination that does not go well together. Moreover, the volume of traffic will only increase further on both the road and the railway. The Safety Board therefore expects the State Secretary for Infrastructure and the Environment will continue to work ambitiously on reducing the number of level crossing casualties. To achieve this, she must protect all unprotected level crossings in the short term, make the level crossings that are already protected even safer and significantly reduce the number of level crossings.

Unprotected level crossings must be protected more quickly

Given the high speed at which trains currently travel, the Safety Board believes that unprotected level crossings are unacceptably dangerous. The likelihood of an accident at these level crossings is much greater than at protected level crossings because the road user is not warned of an approaching train and there is no physical barrier at all between the road and the railway. Therefore, the remaining unprotected level crossings must be protected as quickly as possible. However, the current policy encourages protracted discussions between the parties involved, as a result of which removing or modifying these level crossings is a very slow process. Unprotected level crossings must be tackled within a few years under a policy that does not become bogged down by substantive and financial discussions.

Protected level crossings must become even safer

There is also work to be done on the protected level crossings. The Safety Board has noted that the majority of accidents occur at protected level crossings. This is not because they are less safe than unprotected level crossings but because they represent the majority of level crossings and handle the majority of the road traffic. It is not as easy to improve the safety of protected level crossings as it is to improve the safety of unprotected level crossings. Nevertheless, the number of level crossing casualties and the severity of them can be reduced by providing additional safety measures at protected level crossings, which are based on the lessons learned from the proper investigation of accidents. However, the Safety Board notes that a significant proportion of the budget made available is being

spent on a limited number of level crossings. At the same time, the Safety Board notes that all parties involved can learn more lessons from level crossing accidents. They should also study the approach of Switzerland and the United Kingdom who perform much better than the Netherlands in terms of level crossing safety.

Fewer level crossings means fewer accidents

New railway lines are being constructed without level crossings and no new level crossings are being built on existing railway lines. The Safety Board is amazed that there is no similar policy for the existing level crossings. This calls for an ambitious plan for reducing level crossings in the upcoming decades, taking account of the need of road users to reach the other side of the railway.

Responsibility

A further reduction in the number of level crossing casualties is necessary and achievable. In the long term, it is even possible for there to be no level crossing accidents. However, this will not be achieved with the current policy. Current policy is insufficiently ambitious and lacks vision. Furthermore, there is little understanding of where responsibility for level crossing safety is vested. The State Secretary has indicated that this is not her responsibility; it is ProRail's. Apart from the fact that the Ministry has not explicitly delegated this responsibility to ProRail, the Ministry retains ultimate responsibility for safety of the railways and the level crossings in any event. The outside world is given to understand that level crossing accidents are primarily attributable to the reckless behaviour of road users. However, research by the Safety Board has revealed that this is not the case in the majority of accidents. Moreover, this type of qualification creates the impression that many level crossing accidents cannot be prevented.

The Safety Board expects the State Secretary for Infrastructure and Water Management to ensure a significant reduction in the number of level crossing casualties through a targeted and ambitious level crossing policy.

5 RAIL RECOMMENDATIONS

5.1 Recommendations 2018

In 2018, 3 recommendations were made.

5.2 Implementation of recommendations

In the past five years (2014-2018) four rail accidents occurred that were investigated by the Dutch Safety Board. All of these investigations resulted in safety recommendations to be implemented by the parties involved. One report, the 2018 level crossing safety investigation, was based on several smaller accidents over a longer period of time, and included three recommendations. In total 17 recommendations were issued.

Year of Occurrence	Number of reports published	Number of recommendations issued	Implementation status					
			Implemented		In progress		Not implemented	
			No.	%	No.	%	No.	%
2014	1	7	6	86%	1	14%		
2015	0	0						
2016	2	10	6	60%	4	40%		
2017	0	0						
2018	1	3	2	66%	1	33%		
Total	4	20	14	70%	6	30%		

Appendix: Reports 2005-2018

Rail safety investigation reports published by the Dutch Safety Board (2005 – 2018).

Published	Title
2018	Level crossing safety – a hazardous intersection of interests
2016	Collision between a passenger train and a man lift, Dalfsen
2016	Risk management for the transport of dangerous goods by rail (Tilburg train collision)
2014	Train derailment Hilversum
2013	Train collision Rotterdam Maasvlakte*
2012	Collision between intercity and sprinter, Amsterdam
2011	Metro fire and collision, Amsterdam*
2011	Collision between two goods trains and a passenger train, Barendrecht
2011	Collision of rail-grindingtrain, Stavoren
2010	Derailment of goods train near Amsterdam Muiderpoort station
2008	Derailment at Randstadrail
2007	Derailments Amsterdam Central Station
2005	Passing a red sign at Amsterdam Central Station
2005	Derailment of freight train, Apeldoorn

**in Dutch only.*