Report

Datum
24 September 2008

Netherlands NSA Annual Report 2007

Railway Safety Report for ERA

Contents

1 Part A: Scope and Summary

1.1 Scope of the report

This report is the Netherlands NSA Annual Report for the year 2007. It is produced as much as possible in accordance with the TF AR NSA Proposed Draft Template Version 10, date 8-3-2007.

It is the second report of it's kind. Due to an absence of information, it is not entirely complete with respect to all information asked for in the template.

The railway system considered in this report is the whole Netherlands heavy rail network, managed by Infrastructure Manager ProRail, including shunting yards and lines connecting private company shunting yards to the main network. The Betuweroute, the dedicated freight transport railway that started operation on 16 June 2007, is also included.

Private company shunting yards and local rail networks – tram, metro, lightrail, museum lines – are excluded. Railway systems under construction, such as the High Speed Line, are excluded until they become operational.

1.2 Summary

In 2007, there have been no fatalities amongst passengers or personnel. In 2007, there have been 2 significant injuries amongst passengers, both the result of an accident with rolling stock in motion. In 2007, there has been 1 significant injury amongst personnel as a result of a collision of a train against an object. There have been 3 other significant collisions, causing significant damage, but no significant injury.

In 2007, there have been 26 significant accidents on level crossings, resulting in 19 users of level crossings killed and 7 significantly injured.

The main safety improvement activities for the Netherlands railway system are to reduce the number and risk of SPADs, to improve the safety of the track workers and to improve the management of infrastructure geometry.

Per 1 May 2007 the Safety Directive is fully implemented in Netherlands National Law. Per 16 June 2007, the Betuweroute started operation. This is the first railway line equipped with the new ERTMS/ETCS and 25 kV AC systems.

2 Part B: Introductory Section

2.1 Introduction to the report

The report contains all currently available data on Common Safety Indicators, as far as they are collected to day. Further data on safety indicators is presented in the Trends Analysis Report for 2007, published by the Netherlands Railway Inspectorate. This report is accessible on the website of the Railway Inspectorate: http://www.ivw.nl/nl/land/spoor/resultaten/trendanalyse/index.jsp.

It was not possible to gather all information asked for in the template. Part of the information on safety certification and supervision, asked for in parts F, G and H can not be reported. Also, detailed information on the Railway Undertakings asked for in Annex A is not available. The cause of this is partly that the NSA currently does not keep an administration on the subjects asked for, and partly because the information asked for is not well defined.

2.2 Railway Structure Information

Annex A.1 Provides the Network map. This is taken from the Infrastructure Manager's Network Statement 2008. The Network map only includes heavy-rail infrastructure containing the main rail network and the lines that are accessible from the main rail network.

The Netherlands heavy rail network is accessible for all freight operators in a free market system. The Nederlandse Spoorwegen (NS Reizigers), in accordance with the main rail network concession, performs national passenger services for the main rail network. Regional concession holders perform regional passenger services.

2.3 Summary – General Trend Analysis

The main railway safety trends are:

1) The number of SPADs has almost doubled in the past decade. The national policy aims at reducing the number of SPADs to half the number realised in the year 2003.
2) The number of passenger fatalities has been consistently low during the last decade: 8 fatalities in 10 years, all due to personal accidents. The number of passenger injuries is still twice as high as the national objective of at most 50 injuries per year.

3) The track worker safety is considered to be persistently too high, compared to the safety of other construction worker's safety. The national policy aims at reducing the risk to 1 fatality per 10.000 Full Time Equivalent working years.
4) The number of level crossing fatalities has decreased from almost 40 per year in the late nineties to less than 20 to day. The number of fatalities seems to stabilize at this level.

2.4 The Safety Directive – Stages of implementation

Per 1 May 2007 the Safety Directive is fully implemented in Netherlands National Law.

The Railway Act legislates the main railway safety topics of the Netherlands railway system. The Railway Inspectorate is appointed to maintain the safety rules.

3 Part C: Organisation

3.1 Introduction to the organisation

The Netherlands Railway National Safety Authority (NSA) is the Ministry of Transport, Public Works and Water Management. The NSA activities are performed by two of the Ministry's constituents: the Railway Inspectorate and the Directorate Rail of the Directorate-General for Mobility.

The Directorate Rail has the tasks of following, promoting and developing rules and legislation in order to improve railway safety. The Railway Inspectorate has the tasks of admission of railway undertakings and rolling stock and maintaining the railway safety rules.

The Railway Inspectorate has four units, performing specific tasks:

1) The Inspection unit inspects infrastructure, rolling stock, operational procedures and legal obligations. The unit has about 20 FTE's.
2) The Investigation unit investigates serious incidents and accidents with the purpose to inform the public and to encourage the companies involved to structurally improve safety. All railway actors are obliged to inform the Railway Inspectorate on incidents and accidents. This unit has about 14 FTE's.
3) The Approval and Continuation unit audits Safety Management Systems and certifies companies, working shops, rolling stock and notified bodies. This unit has about 7 FTE's.
4) The Expertise unit advises the Minister on new infrastructure projects and on the ministerial responsibility in relation to parliament. The unit also performs research projects on new developments or persistent railway safety problems. Finally, this unit is responsible for publication of the Inspectorate results. This unit has about 15 FTE's.

The whole Railway Inspectorate has approximately 63 FTE's, including management and staff.

3.2 Organisational Flow

Annex B shows the organisational structure of the Netherlands NSA and it's relationships with other national bodies that have a supervisory task with respect to the rail domain. These national bodies are briefly discussed here.

The Dutch Safety Board (Onderzoeksraad voor Veiligheid, OvV) is a fully independent investigation board that investigates serious incidents and accidents in order to find structural safety deficits. Governmental bodies are obliged to respond to recommendations of the board. The Dutch Safety Board investigates approximately 1 à 2 railway-related accidents per year. These investigations are parallel to the investigations of the Railway Inspectorate.

The National Police (Korps Landelijke Politie Diensten, KLPD) has a department dedicated to railways, called Railway Police (Spoorwegpolitie). The main focus of this police activity is on crime and public safety. The police also investigate serious safety incidents and accidents with the aim to bring the responsible to justice. These investigations are parallel to the investigations of the Railway Inspectorate. The National Police is part of the Ministry of the Interior and Kingdom Relations.

The Netherlands Competition Authority (Nederlandse Mededingingsautoriteit NMa) has the task to maintain a level playing field for all actors in the railway industry. The activities of the Netherlands Competition Authority have very little connection with the activities of the NSA. In some cases safety arguments are used in business conflicts between actors. In these cases the Railway Inspectorate can advise the Authority. The Netherlands Competition Authority is part of the Ministry of Economic Affairs.

The Labour Inspectorate (Arbeidsinspectie) has the task to supervise the worker's safety and to maintain the Labour Health and Safety Act. For the Railway field, this is particularly of interest to Train Drivers, Train Managers, Track Workers and Shunt Workers. The Labour Inspectorate and the Railway Inspectorate work closely together on issues that are relevant for the worker's safety. The Labour Inspectorate is a part of the Ministry of Social Affairs and Employment.

4 Part D: The Development of Railway Safety

4.1 Initiatives to Maintain or Improve Safety Performance

Initiatives to maintain or improve safety performance form a continuing process. The main framework for this process is the policy statement "Kadernota Veiligheid op de Rails" from 2004. This document describes top-level safety targets, together with the main railway safety developments and persistent problems. It presents current and coming projects and activities to improve safety.

On top of this policy statement, accident investigations lead to recommendations and initiatives to improve safety. This paragraph does not give a complete overview of all projects and initiatives, but highlights the most important.

1) SPAD problem
A series of train collisions caused by SPAD's (e.g. Amsterdam, 24 May 2004), together with the knowledge that the number of SPAD's has strongly increased since the mid-nineties, have urged the railway participants to come up with measures to reduce the number of SPAD's and the risk associated with it. The measures comprise of a series of lower impact measures, such as signal visibility improvement, train driver awareness assessment and route setting improvements, together with one high impact measure to improve the current ATP system, the so-called ATB Eerste Generatie. An add-on for this system is being developed in order to force trains approaching red signals to brake. This add-on is to be installed in all trains and on 1000 signals, most relevant to the risk of SPAD's. The measures together must result in reducing the number of SPAD's by 50% in the year 2009, compared with the year 2003. The associated risk must be reduced with 75%.

2) Infrastructure geometry
Two derailments caused by track buckles in summer 2006 have urged the infrastructure manager to come up with an infrastructure safety management improvement program. This program consists of improvement of company procedures, training of personnel and intensifying contractor audits and inspections. This program continues in 2007 and 2008.

A derailment caused by a point failure in 2007 has urged the infrastructure manager to improve the management of point maintenance.

3) Track Worker Safety

The number of Track Worker fatalities is considered to be consistently too high. The Infrastructure Manager ProRail initiated a large-scale safety improvement programme. The contractors and the relevant supervisory bodies – the Railway NSA and the Labour Inspectorate – are involved in this programme.

Other railway safety improvement programmes active in 2007 are for instance:

- a programme to reduce the number of railway premises intrusions by unauthorised persons
- an ongoing programme to improve level crossing safety
- a safety management improvement programme by the Infrastructure Manager

Finally, accident investigation reports from the Dutch Safety Board and all reports from the Railway Inspectorate – accident investigation, inspection or safety management system approval, lead to specific or structural safety improvement recommendations and measures.

4.2 Detailed Data Trend Analysis

The Netherlands NSA yearly reports a detailed data trends analysis. The 2007 report is attached to this annual report. The main trends are:

- The number of passenger fatalities is below the nationally accepted value of 0.15 fatality per 10^9 passenger.kilometres for the last ten years, evaluated on a 5-years average basis.
- The previous decade, there has not been a single passenger fatality due to a train collision, derailment, level crossing accident or fire. All 8 fatalities that have occurred were caused by accidents with rolling stock in motion.
- The previous decade, 8 track workers have been killed, whereas approximately 1 fatality in 3 years is considered to be acceptable. The trend is constant.
- The number of level crossing fatalities has decreased the previous decade from almost 40 per year to less than 20 per year, evaluated on a 5-years average basis. In 2007 there were 19 fatalities.
- The number of SPAD's has increased the previous decade from approximately 150 to over 250 per year (5-year average).

The accident data according to the draft Common Safety Indicator definitions is presented in Annex C.

5 Part E: Important Changes in Legislation and Regulation

In 2007 there have been two changes in national legislation:

- The Safety Directive has been fully implemented in Netherlands legislation.
- The existing implementation of the second railway package has been improved with respect to the approval of rolling stock.

6 Part F: The Development of Safety Certification and Authorisation

1.1 From 1 augustus 2007 on, the Netherlands NSA issues Safety Certificates according to Article 10 of Directive 2004/49/EC.

1.2 From 1 augustus 2007 on, the Netherlands NSA issues Safety Authorisations according to Article 11 of Directive 2004/49/EC.

1.3 All relevant national legislation is accessible through the website www.ivw.nl.

2. See Annex D

3. This information is not available.

7 Part G: Supervision of Railway Undertakings and Infrastructure Managers

1. The Netherlands NSA supervises Railway Undertakings and Infrastructure Managers in four types of inspections and audits:

1) The NSA audits Safety Management Systems and certifies companies, working shops, rolling stock and notified bodies.
2) The NSA inspects infrastructure, rolling stock, operational procedures and legal obligations. The results of these inspections are basis for interventions with the aim to improve safety performance and safety compliance.
3) The NSA investigates serious incidents and accidents with the purpose to inform the public and to encourage the companies involved to structurally improve safety. All railway actors are obliged to inform the Railway Inspectorate on incidents and accidents.
4) The NSA advises the Minister of Transport and Water Management on new infrastructure projects and on the ministerial responsibility in relation to parliament. This may include research projects on new developments or persistent railway safety problems.

2. Most Railway Undertakings and the Infrastructure Manager send in their annual safety report in time.

3. In 2007, there had been approximately 700 inspections and 1100 incident pre-investigations. In total 22 accidents and incidents have been fully investigated.

4. In 2007, there had been 15 initial audits at Railway Undertakings. There have been 5 continuation audits.

5. The inspections and audits led to a variety of corrective measures and actions.

6./7. This information is not available.

8 Part H: Conclusions – Priorities – Results of Safety Recommendations

8.1 Conclusions

The general level of railway safety in the Netherlands is considered to be good, when compared with the national safety targets.

8.2 Priorities

The Netherlands railway safety priorities are:

- SPAD reduction
- Infrastructure safety improvement
- Track worker safety improvement

8.3 Results of Safety Recommendations

This subject is currently not elaborated.

9 Part I: Annexes

9.1 Annex A: Railway Structure Information

9.1.1 Annex A.1: Network Map

Figure A.1: Network Map, taken from ProRail Network Statement

9.1.2 Annex A.2: List of Railway Undertakings and Infrastructure Managers

Name	Address	Website/ Network Statement Link	Safety Authorisation	Start Date Commercial Activity	Total Track Length/ gauge	Electrified Track Length/ Voltages	Total Double/ Single Track Length	Total Track Length HSL	ATP equipment used	Number of LC	Number of Signals
ProRail	Moreelsepark 3 3511 EP Utrecht	www.prorail.nl http://www.prorail.nl/Vervoerders/Pages/Netverklaring.aspx	24 April 2008	1 January 2003	6700 km / 1435 mm	4000 km / 1500 V DC 95 km / 25 kV AC (2000 km network length)	Single: 900 km Other: 2000 km Network: 2900 km	0 km	ATB EG on electrified track ATB NG on other ERTMS on Betuweroute	2700	9800

Table Infrastructure Manager

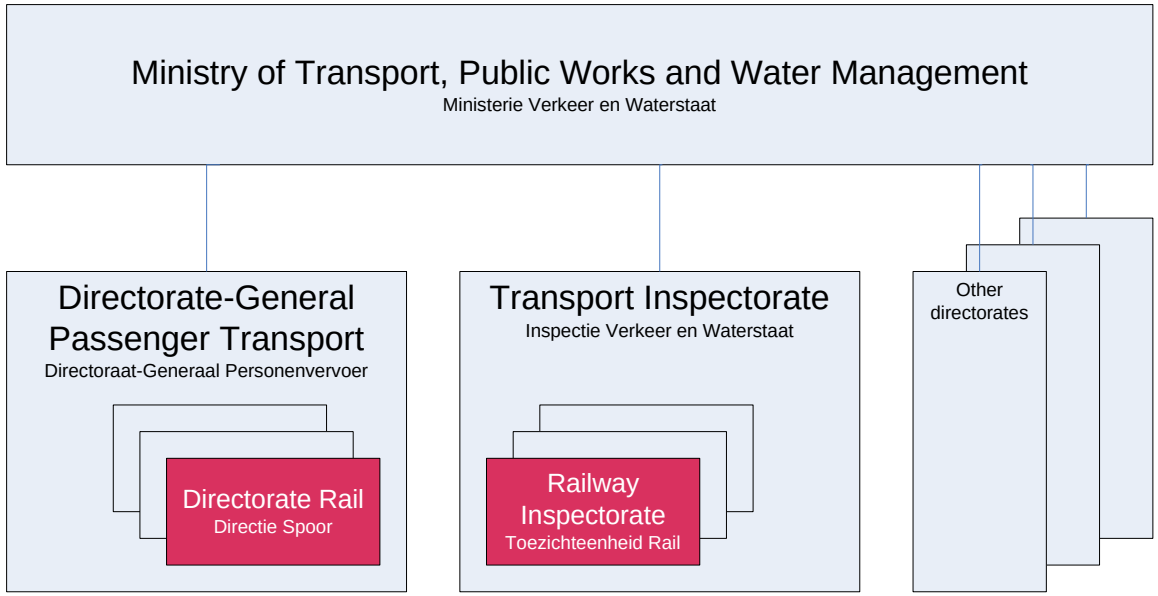
Name	Safety Certificate 2001/14/EC (number/date)	Safety Certificate A – B 2004/49/EC (number/date)	Start Date Commercial Activity	Traffic Type	Number of Locomotives	Number of Railcars / Multiple Unit Sets	Number of Coaches / Wagons	Number of train Drivers / Safety Crew	Volume of Passenger Transport	Volume of Freight Transport
ACTS		27-06-2008		G						
Arriva		1-8-2008		P						
BAM Rail	19-05-2005			G						
B-Cargo	03-08-2006			G						
Connexxion		8-8-2007		P						
CTL Hamburg		03-09-2007		G						
DB Autozug		23-10-2007		G						
DB NRW		01-01-2008		G						
DLC	01-01-2006			G						
ERS	29-03-2007			G						
EurailScout		15-06-2008		G						
HGK	01-10-2005			G						
HSA (NSInt)		12-08-2008		P						
ITL Benelux		16-08-2007		G						
Lloyds Register R.E.	16-12-2006			G						
NSR	29-11-2006			P						
NedTrain		01-07-2008		G						
Prignitzer		01-01-2008		P						
Rail4Chem Benelux	01-08-2006			G						

Rail4Chem GmbH	01-08-2006			G						
Railion		15-11-2007		G						
RRF		07-11-2007		G						
Rurtalbahn		01-10-2007		G						
SNCF Frêt	28-12-2006			G						
Spitzke		26-05-2008		G						
Strukton Railinfra Materieel	20-06-2006			G						
Syntus		14-07-2008		P						
Thalys	31-08-2005			P						
Veolia Cargo		26-11-2007		G						
Veolia Transport / CGEA		01-06-2008		P						
VolkerRail		14-09-2008		G						

Table: Railway Undertakings, actual situation on date 1 September 2008

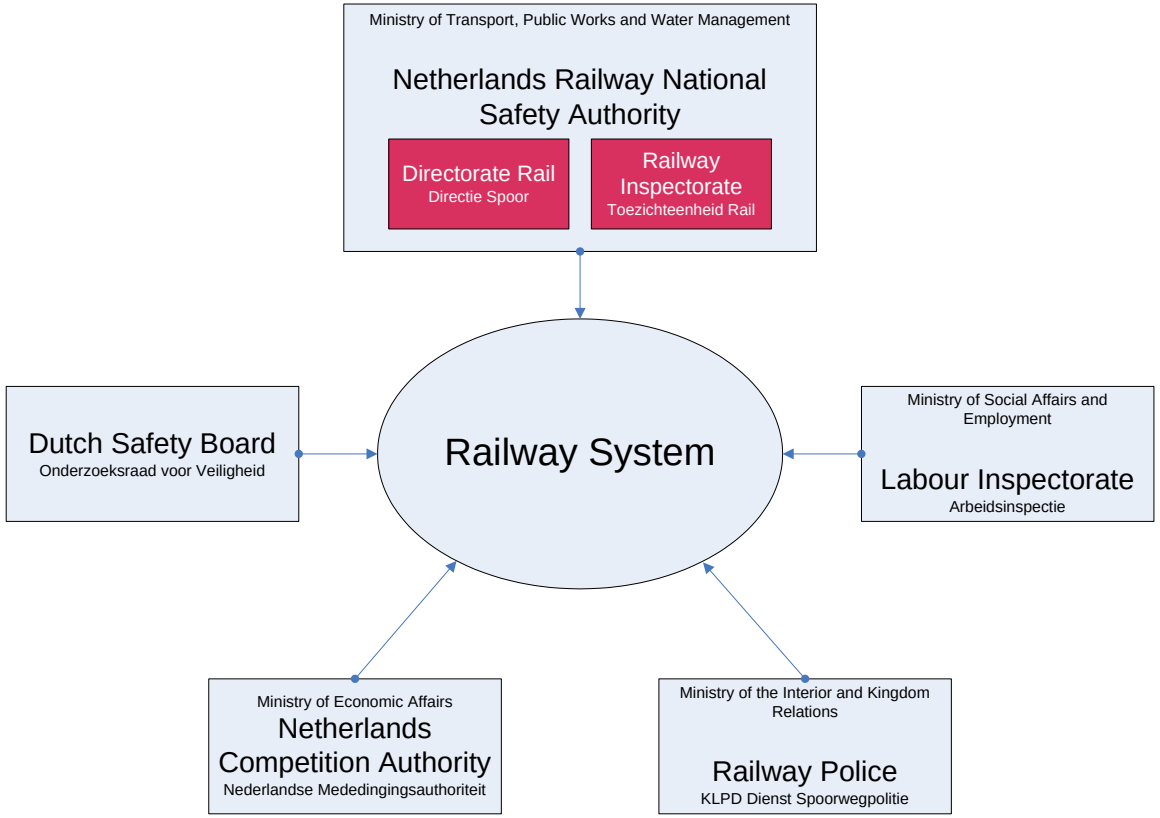
9.2 Annex B: Organisation Charts of the National Safety Authority

9.2.1 B1: Chart: Internal Organisation



The formal NSA is the Minister Transport, Public Works and Water Management. The red marked parts of the Ministry of Transport, Public Works and Water Management together form the practical organisation of the NSA.

9.2.2 B2: Chart: relationship with other National Bodies



9.3 Annex C: CSIs data

The 2007 data on de draft CSIs is presented in the table below. The charts are produced using the Excel-tool provided by the ERA. The excel-files are attached to this report.

ERA code	Description of data	Value
N00	Total Number of all accident	33
N01	Number of Collisions of trains, including collisions with obstacles within the clearance gauge	4
N02	Number of Derailments of trains	0
N03	Number of Level-crossing accidents, including accidents involving pedestrians at level-crossings	26
N04	Number of Accidents to persons caused by rolling stock in motion, with the exception of suicides	3
N05	Number of Fires in rolling stock	0
N06	Number of Other accidents	0
N07	Number events: suicide	193
PS00	Total number in all accident	2
PS01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
PS02	In derailments of trains	0
PS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
PS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	2
PS05	In fires in rolling stock	0
PS06	In others	0
SS00	Total number in all accident	1
SS01	In collisions of trains, including collisions with obstacles within the clearance gauge	1
SS02	In derailments of trains	0

SS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
SS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
SS05	In fires in rolling stock	0
SS06	In others	0
LS00	Total number in all accident	7
LS01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
LS02	In derailments of trains	0
LS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	7
LS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
LS05	In fires in rolling stock	0
LS06	In others	0
US00	Total number in all accident	0
US01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
US02	In derailments of trains	0
US03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
US04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
US05	In fires in rolling stock	0
US06	In others	0
OS00	Total number in all accident	0
OS01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
OS02	In derailments of trains	0
OS03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
OS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
OS05	In fires in rolling stock	0

OS06	In others	0
PK00	Total number in all accident	0
PK01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
PK02	In derailments of trains	0
PK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
PK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
PK05	In fires in rolling stock	0
PK06	In others	0
SK00	Total number in all accident	0
SK01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
SK02	In derailments of trains	0
SK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
SK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
SK05	In fires in rolling stock	0
LK00	Total number in all accident	19
LK01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
LK02	In derailments of trains	0
LK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	19
LK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
LK05	In fires in rolling stock	0
LK06	In others	0
UK00	Total number in all accident	1
UK01	In collisions of trains, including collisions with obstacles within the clearance gauge	0

UK02	In derailments of trains	0
UK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
UK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	1
UK05	In fires in rolling stock	0
UK06	In others	0
OK00	Total number in all accident	0
OK01	In collisions of trains, including collisions with obstacles within the clearance gauge	0
OK02	In derailments of trains	0
OK03	In level-crossing accidents, including accidents involving pedestrians at level-crossings	0
OK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	0
OK05	In fires in rolling stock	0
OK06	In others	0
I00	Total number of incidents and near-misses	319
I01	Total number of broken rails	31
I02	Total number of track buckles	13
I03	Total number of wrong-side signalling failures	unknown
I04	Total number of signals passed at danger	275
I05	Total number of broken wheels on rolling stock in service	0
I06	Total number of broken axles on rolling stock in service	0
C00	Total costs of all accidents	0,000
C01	Costs of deaths	unknown
C02	Costs of injuries	unknown
C03	Costs of replacement or repair of damaged rolling stock and railway installations	unknown
C04	Costs of delays, disturbances and re-routing of traffic, including extra costs for staff and loss of future	unknown

	revenue	
W00	Total number of working hours of staff and contractors lost as a consequence of accidents	unknown
T01	Percentage of tracks with Automatic Train Protection (ATP) in operation	99%
T02	Percentage of train kilometres using operational ATP systems	99,9%
T03	Total number of level crossings	2720
T04	Total number of level crossings per line kilometre	4,06E-01
T05	Percentage of level crossings with automatic or manual protection	67,5%
A01	Total number of accomplished audits	20
A02	Percentage of audits accomplished/required (planned)	100,00%
R01	Number of Train*Km	140,000
R02	Number of Passenger*Km	16,400
R03	Number of track kilometres (double track lines are to be counted twice)	6700,000
R04	Total number of working hours	unknown

Colofon

Production
Inspectie Verkeer en Waterstaat
Datum
1 October 2008
Contact
Helmuth Götz
E-mail
Helmuth.Gotz@ivw.nl
Telephone
+3130 236 3167