Report 2008:4

Annual report for 2007 of the Swedish Rail Agency pursuant to Directive 2004/49/EC

VERSION INFORMATION

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A.1 SCOPE OF THE REPORT

The purpose of this report is to describe safety on the Swedish rail system as advocated in the EU Railway Safety Directive[1] (referred to below as the Safety Directive). In Sweden, the conditions for the rail system are primarily governed by the Swedish Railway Act[2]. Trams and metros are not covered by the report.

A.2 SUMMARY

In accordance with the EU Safety Directive (2004/49/EC), all Member States must submit to the European Railway Agency (ERA) an annual report concerning the safety of the national rail system. This year's report, which deals with operation in 2007, is the second of its kind. It mainly follows the guidelines provided for the purpose by ERA.

The rail system is subject not only to EU legislation but also to national law, in particular the Swedish Railway Act. The Safety Directive has been incorporated in Swedish law since 1 July 2007. During the second half of the year, the Swedish Rail Agency has, for the first time, issued safety certificates and safety authorisations pursuant to Articles 10 and 11 respectively of the Safety Directive. No inspections or audits have yet been carried out pursuant to the Safety Directive, however.

In Sweden there are many railway undertakings and infrastructure managers. In 2007 there were 110 railway undertakings and 475 infrastructure managers holding authorisations to conduct railway operations.

The nature of the details to be given in the Swedish Rail Agency's report is such that the Swedish Rail Agency has requested information from the operators. This has been provided in the safety report of the operators. The Swedish Rail Agency has made use of its ability to grant exemptions from submitting a safety report. As a result, there has, for example, been no need for the majority of the infrastructure managers to submit a safety report. The information in this report is based on 171 safety reports received by the Swedish Rail Agency.

It is evident from the safety reports received that, as last year, there are many individual and interacting measures that contribute to enhancing and maintaining the safety of the rail system. Railway undertakings and infrastructure managers have taken steps to deal with accident risks in their operations. One example of a safety-enhancing activity many operators are carrying out is to encourage deficiency reporting.

In 2007, a total of 56 accidents occurred which required reporting in accordance with Annex 1 to the Safety Directive[3]. The accidents comprised one train collision, 11 train

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[1] Directive 2004/49/EC

[2] The Swedish Railway Act (2004:519)

[3] Accidents in which at least one rail-borne vehicle in motion was involved and in which at least one person was killed or seriously injured, or in which damage to material, tracks or other installations resulted in costs of at least two hundred and fifty thousand euro. Accidents having significant consequences for the environment or which significantly delay rail traffic are also accidents that must be reported. Incidents involving suicides are excluded. See definitions, Annex F.

derailments, four fires, 14 level-crossing accidents, 20 accidents to persons caused by rolling stock in motion and six other accidents. All the individuals who lost their lives (23) did so in level-crossing accidents or accidents to persons. The number of seriously injured people (14) can also largely be attributed to level-crossing accidents and accidents to persons. There were 10 more accidents in 2007 than in 2006. The fact that the number of train derailments reported in 2007 was six more than in the previous year may be due to the fact that the criterion of "significant traffic disruption" has been applied to a greater extent in this second reporting year.

In 2007, the Swedish Rail Agency has continued to carry out development work concerning safety supervision of the rail system. Supervision activities are now both risk-based and event-based. Supervision methods themselves have been systematised and are now always based on the operators' safety management systems.

The Swedish Accident Investigation Board made several recommendations to the Swedish Rail Agency in 2007 based on a near collision that occurred. The Swedish Accident Investigation Board's recommendations resulted in the Swedish Rail Agency issuing an order to all railway undertakings to implement a routine for the use of ATC[4] during compulsory testing of braking ability.

From the statement in the safety reports, the Swedish Rail Agency concludes that the players in the rail system are well able to handle risks in the rail system in order to avoid accidents. On the other hand, it is more difficult to implement specific safety-enhancing measures to prevent accidents to persons and level-crossing accidents as these occur when the rail system encounters other parts of society.

On 1 January 2009, the Swedish Rail Agency will become part of the Swedish Transport Agency, a joint supervision agency for the four forms of transport: road, rail, air and sea. This may mean greater scope for cooperation between the various forms of transport, seeking to reduce the number of these accidents.

When the Swedish Rail Agency looks ahead with safety in mind, one important task is to develop the national technical specifications for the Swedish railways. During 2008, the Swedish Rail Agency has also issued common traffic rules for the entire Swedish railway system that will come into effect on 31 May 2009.

[4] Automatic Train Control

A.1 SCOPE OF THE REPORT

The purpose of this report is to describe safety on the Swedish railway system as advocated in the Railway Safety Directive[5] (referred to below as the safety directive). In Sweden, the conditions for the railway system are primarily governed by the Railway Act[6]. Trams and metros are not covered by the report.

A.2 SUMMARY

According to the EU safety directive, all member states must submit to the European Rail Agency (ERA) an annual report concerning the safety of the national rail system. This year's annual report, which deals with operation during 2007, is the second of its kind. It mainly follows the guidelines provided for the purpose by the ERA.

The rail system is subject not only to EU legislation but also to national law, in particular the Railway Act. The Safety Directive has been incorporated into Swedish law since 1 July 2007. The Swedish Rail Agency has during 2007 for the first time issued safety certificates and safety authorisation according to Directive 2004/49/EC. Since the safety directive was only incorporated into Swedish law on 1 July some of the requested information is lacking for 2007. For example, neither audits nor inspections pursuant to the Safety Directive were carried out during 2007.

In Sweden there are many railway undertakings and infrastructure managers. During 2007 there were 110 railway undertakings and 475 infrastructure managers holding permits to conduct railway operations.

The nature of the details to be stated in the Swedish Rail Agency's report is such that the Swedish Rail Agency has requested information from the operators. This has been done in the safety report of the operators. The Swedish Rail Agency has made use of its ability to grant exemptions from submitting a safety report. As result, there has for example been no need for the majority of the infrastructure managers to submit a safety report. This report is based on 171 received safety reports.

As in the previous report it is evident from the received safety reports that there are many individual and interacting measures that contribute to enhancing and maintaining the safety of the rail system. Railway undertakings and infrastructure managers have taken steps to deal with accident risks in their operations. An example of an activity among several infrastructure managers and railway undertakings is to further encourage the reporting of incidents.

During 2007, there were 56 significant accidents[7]. These accidents can be broken down into the following categories: one train collision, 11 derailments of trains, four fires in rolling stock, 14 level-crossing accidents, 20 accidents to persons caused by rolling stock

[5] Directive 2004/49/EC

[6] The Railway Act (2004:519)

[7] Significant accident = an accident in which at least one rail-borne vehicle in motion was involved and in which at least one person was killed or seriously injured, or in which damage to materiel, tracks or other installations resulted in costs of at least one hundred and fifty thousand euros. Accidents having significant consequences for the environment or which significantly delay rail traffic are also included. Incidents of suicides are excluded. See definitions, Annex F.

in motion and six other accidents. All the individuals who lost their lives (23) fall into in the categories level crossing accidents and accidents to persons caused by rolling stock in motion. The number of seriously injured people (14) can also largely be attributed to level-crossing accidents and individuals. The number of reported accidents in 2007 was ten more than in 2006. The fact that the number of reported derailments in 2007 was 6 more than in the previous year can be the result of the fact that the criteria for "significantly delayed traffic" has achieved increased use.

During 2007, the Swedish Rail Agency has continued its development work concerning safety supervision of the rail system. The Swedish Rail Agency's supervision activities are now both risk-based and event-based. The methods of safety supervision have been changed, with a shift towards system auditing.

The Swedish Accident Investigation Board made three recommendations to the Swedish Rail Agency during 2007 based on a near collision. One of the recommendations resulted in an order issued to all railway undertakings implementing a routine for the use of ATP[8] when testing the train's breaking ability.

From the statement in the safety report for year, the Swedish Rail Agency concludes that the players in the rail system are well able to handle risks in the railway system in order to avoid accidents. On the other hand it is more difficult to implement concrete and effective measures to prevent accidents to person caused by rolling stock in motion and level-crossing accidents since these accidents occur where the railway system meets other parts of society.

On January 1 2009 the Swedish Rail Agency becomes a part of the "Swedish Transport Agency", a joint supervision agency for the four forms of transport: road, rail, air and sea. This may mean greater scope for cooperation between the various forms of transport, seeking to reduce the number of these accidents.

When the Swedish Rail Agency looks ahead with safety in mind, one important task is to develop the national technical specifications for the Swedish railways. During 2008 the Swedish Rail Agency has also issued common traffic rules for the whole railway system that will come into effect in May 2009.

[8] Automatic Train Protection

B INTRODUCTION

B.1 Background and target group

This report has been prepared for and at the request of the European Railway Agency (ERA). It may also be of interest to employees of the Swedish Rail Agency, the Swedish Ministry of Enterprise, Energy and Communications, the Swedish Institute for Transport and Communications Analysis (SIKA), other authorities and research institutes, railway undertakings, infrastructure managers and other players in the rail sector. The report may also be of interest to those with a general interest in railways and rail safety. The report can be accessed from the Swedish Rail Agency's website at www.jvs.se under the "Publications" link. The report will also be published on the ERA's website at www.era.europa.eu, which also contains reports from other countries.

The Safety Directive stipulates that the national safety authority of each Member State should each year, by 30 September at the latest, submit a report to the European Railway Agency (ERA)[9]. The purpose of this report is to describe national safety levels and, pursuant to the Safety Directive, it should contain information on the development of railway safety, important changes in legislation and other regulations concerning railway safety, the development of safety certification and safety authorisation, as well as results of and experience relating to the safety authority's supervision operations.

The Safety Directive stipulates that the operators, i.e. railway undertakings and infrastructure managers, should submit a safety report to the safety authority by 30 June each year[10]. In accordance with the directive, this report should contain information on how the organisation's corporate safety targets are met, reporting of information relevant to common safety indicators (CSIs), results of internal safety auditing and observations on deficiencies and malfunctions of railway operations that might be relevant to the safety of the railway.

The Swedish rail network is subject to the Swedish Railway Act[11]. In the Railway Ordinance[12] the government has authorised the Swedish Rail Agency to issue detailed regulations covering the railways field. The Swedish Rail Agency's regulations are published in the Swedish Rail Agency's Code of Statutes (JvSFS). The Safety Directive, part of the Second Railway Package, was incorporated into Swedish law on 1 July 2007. Reporting of the CSIs has mainly been based on information gathered in accordance with the definitions proposed by the ERA itself. In certain cases, national definitions have been used, as shown in Annex C.

Templates and guidance for reporting have been prepared by a working party within the ERA consisting of representatives from interested Member States' safety authorities (including Sweden). This took place in autumn 2006 and the working party completed its work in February 2007. In Sweden, a reference group of representatives from both railway undertakings and infrastructure managers then contributed in spring 2007 their

[9] Directive 2004/49/EC, Chapter IV, Article 18

[10] Directive 2004/49/EC, Chapter II, Article 9

[11] The Swedish Railway Act (2004:519)

[12] Railway Ordinance (2004:526)

opinions on the Swedish Rail Agency's guidance, which contains instructions and definitions for the safety reports of the operators.

As regards the CSIs, there is a working party within the ERA, in which Sweden is represented, which has been working to produce a proposed revision of Annex 1 to the Safety Directive, which is the annex containing the indicators. The group is also working to produce common guidance for the indicators to increase uniformity in reporting.

In order to simplify and reduce the administrative burden on the operators which are required to submit reports, the Swedish Rail Agency has, as of this year, collected the safety reports together with other accident information that is collected and reported to SIKA and the European statistics authority, Eurostat. There are, however, certain differences in definitions, which mean that the figures vary somewhat, see section D.3.

This year's report follows as closely as possible the ERA templates for the layout of the safety report, including a record of the common safety indicators (CSIs). Safety reports were collected for the first time in 2007 and so this is the second year. This means that some of the information reported is based on unreliable data.

It has not been possible to perform a five-year trend analysis as the information is currently only available for the past two years.

B.2 Operators

It is the operators that are the main players in the railway sector, acting as railway undertakings and infrastructure managers. Those wishing to pursue railway operations in Sweden must apply for a permit to do so from the Swedish Rail Agency. Permits are reviewed in accordance with the terms in the Railway Act and granted to railway undertakings and infrastructure managers separately. Therefore, an organisation may have one or more permits; an infrastructure manager may, for example, in certain cases also be authorised for rail transport services. In Swedish law, infrastructure managers and railway undertakings are defined as follows[13]:

"Railway undertaking": any undertaking that, in accordance with a licence or special permit, provides traction and conducts rail transport.

"Infrastructure manager": any undertaking that manages railway infrastructure and operates installations belonging to that infrastructure.

Under these definitions Sweden had 585 operators licensed to conduct railway operations in 2007.

Permit holders	**2007**
Railway undertakings	110
Infrastructure managers	475
Total	**585**

Table 1: Information on number of operators in 2007, see list in Annexes A.2.1 and A.2.2. The figures do not include traffic operators and track owners who operate trams and metros unless they are also railway undertakings or infrastructure managers.

[13] The Swedish Railway Act (2004:519), Chapter 1, Section 4

The railway sector can be divided into two submarkets, a rail market and an infrastructure market. Railway undertakings act on the rail market, upon which the transport of passengers and goods transport is conducted. The largest player on the rail market originates from the time when all railway operations were in the hands of the state. In Sweden, the requirements for the transport of passengers differ from those for the transport of goods. The transport of passengers is still regulated, and a state-owned company has the exclusive right to operate the inter-regional transport of passengers. In certain cases, a decision is taken to open a line to competition, and traffic is put out to tender or allocated by means of a service obligation. The regional and local transportation of passengers is procured by the respective service operator. The transport of goods has been opened to competition but is still dominated by the company that was formerly part of the national railway administration.

The infrastructure market is strongly dominated by the state, which means that the dominant player is the infrastructure manager of the national track system. The rail network in Annex A.1 shows the geographical distribution of the state-owned rail network. In 2007 there were 475 infrastructure managers. Of these, only 20 or so were major players in terms of the number of kilometres of track. The other infrastructure managers typically have smaller track systems for their own use, for instance industrial companies with their own railway track linking them to the national track system, for the transport of their own goods.

B.3 Exempted operators

The Swedish Rail Agency has in this report, and on the basis of the Railway Act (2004:519), exempted railway undertakings and infrastructure managers that only operate on

1. local and regional rail networks that are independent and only intended for passenger or museum transport, or

2. rail networks that are not managed by the state and are only used by infrastructure managers for transporting their own goods.

This report is based on 171 safety reports from operators. 406 operators are exempt, which leaves a shortfall of five per cent.

A large group not granted exemption comprises the municipalities and ports licensed to conduct railway operations.

C ORGANISATION

C.2 Organisation of the Swedish Rail Agency

The Swedish Rail Agency is a central administrative authority established in connection with new railway legislation which entered into force on 1 July 2004. In this respect, Sweden has met the requirements of the Safety Directive which states that each Member State should have a safety authority which, independently of any infrastructure manager and railway undertaking, is responsible for granting safety certifications and safety authorisations, deciding on authorisations for placing technical subsystems and components in service, and ensuring registration of items of rolling stock, for example. The Swedish Rail Agency also has a normative role and supervises the railway system.

The Swedish Rail Agency's mission is set out in an ordinance[14] with instructions for the Swedish Rail Agency. Each year, the government specifies in its spending directive the conditions that apply to the Swedish Rail Agency's duties for the following financial year. The spending directive includes objectives for transport policies, requirements for the Swedish Rail Agency to report to the government on what targets it has achieved, and budgetary constraints.

The Swedish Rail Agency is headed by a director-general and internally is organised into five units that mainly reflect the separation of the railway sector into railway undertakings and infrastructure managers, among other things. In addition to the railway undertakings unit and the infrastructure unit, which, among other things, decide on permits, conduct safety inspections and review permits, a technical unit handles issues concerning the authorisation of technical subsystems etc. The legal unit is charged with establishing the Swedish Rail Agency's regulations. The analysis and administration unit has, in part, the character of an internal service unit bringing together everything that is not directly associated with the Agency's core mandate, such as personnel and finance administration and IT issues. Analysis of accident data, such as producing this year's safety report, and telephone readiness for accident reporting also fall within the remit of the analysis and administration unit. Each unit is headed by a unit manager. The Swedish Rail Agency's annual report for 2007 shows that the Agency had 58 members of staff at the end of the year, of whom 34 were men and 24 were women. Annex B.1 contains the Swedish Rail Agency's organisational chart for 2007.

On 1 January 2009, the Swedish Rail Agency will become part of a new authority, the Swedish Transport Agency, which will have overall responsibility for the regulation, supervision, granting of permits and record-keeping for the four forms of transport: road, rail, air and sea.

[14] Ordinance (2004:527) on the Mission of the Swedish Rail Agency

C.2 Relationships of the Swedish Rail Agency

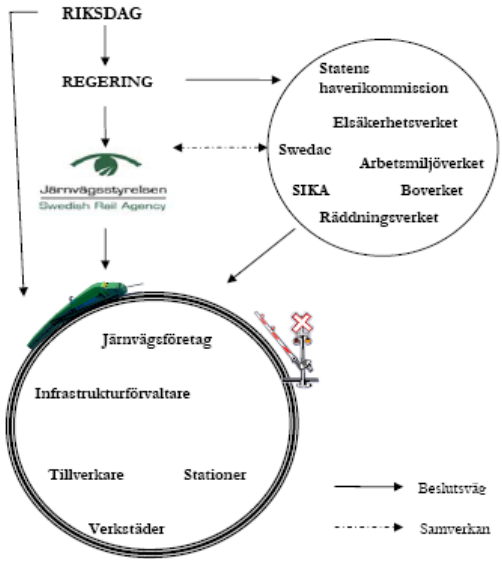
The Swedish Rail Agency is not a solitary authority exclusively in charge of the regulation of the whole rail system. There are several other national authorities which are responsible for their respective areas, such as the Swedish National Electrical Safety Board, the Swedish Board of Housing, Building and Planning and the Swedish Rescue Services Agency. These authorities interact and exercise their official authority over the various actors in the railway system within their respective areas of responsibility. The figure below (Figure 2) demonstrates this with some of the national authorities which have an impact on the Swedish Rail Agency and other actors in the rail system, for example by having normative tasks in certain safety-related issues.

Swedac accredits companies that confirm that technical subsystems meet the relevant technical specifications for interoperability (TSIs).

The Rescue Services Agency has an overall and coordinating responsibility in its work to ensure a safer society. The Swedish Rail Agency cooperates with the Rescue Services Agency on, for example, supervision of the transport of dangerous goods.

The Swedish Rail Agency reports incidents to the Swedish Accident Investigation Board, which is an independent investigating body, pursuant to the Safety Directive. The Swedish Accident Investigation Board submits its recommendations to the Swedish Rail Agency which, acting as a safety authority, has to follow and take adequate measures in response to those recommendations. The Swedish Rail Agency also has to report back to the Swedish Accident Investigation Board on how their recommendations have been dealt with and the measures taken in response to them (see Section H of this report).

The Swedish Rail Agency also cooperates with the Swedish Institute for Transport and Communications Analysis (SIKA). The Swedish Rail Agency submits statistical data to SIKA, which in turn submits accident statistics to Eurostat.



SWEDISH	ENGLISH
RIKSDAG	**PARLIAMENT**
REGERING	**GOVERNMENT**
Järnvägsföretag	**Railway undertakings**
Infrastrukturförvaltare	**Infrastructure managers**
Tillverkare Stationer	**Manufacturers Stations**
Verkstäder	**Workshops**
Statens haverikommission	**Swedish Accident Investigation Board**
Elsäkerhetsverket	**Swedish National Electrical Safety Board**
Swedac	**Swedac**
Arbetsmiljöverket	**Swedish Work Environment Authority**
SIKA Boverket	**SIKA Swedish Board of Housing, Building and Planning**
Räddningsverket	**Swedish Rescue Services Agency**
Beslutsväg	Decision-making path
Samverkan	Cooperation

Figure 1: National relationships of the Swedish Rail Agency (this figure replaces Annex B.2).

Solid arrows in the diagram (Figure 2) represent decision paths. These are therefore one-way, whereas the two-way broken line represents cooperation.

It is not only railway undertakings and infrastructure managers that are players in the rail system, but also manufacturers of technical systems such as vehicles, signals, and signal-boxes. Vehicles need maintenance and repair, which is carried out by workshops, and they are sometimes also authorised as both railway undertaking and infrastructure

manager. Manufacturers are not part of the Swedish Rail Agency's area of responsibility. However, the Swedish Rail Agency is responsible for authorising subsystems to be brought into service. Similarly, the operations of the workshops are not regulated in railway legislation, although there are rules which affect the workshops' maintenance work, e.g. the requirement that the safety management system of the infrastructure managers and railway undertakings also covers maintenance of vehicles and railway infrastructure.

D DEVELOPMENT OF RAILWAY SAFETY

The work to maintain a high and constant safety level in rail operations involves all players in the rail system, as shown in Figure 2. The Swedish Rail Agency is, for example, currently following up the safety targets that the government has specified. The Swedish Rail Agency is supported in this by activities in the form of safety supervision and regulations, among other things. The operators, in their turn, follow the prescribed rules and take measures where necessary.

Hence, the national safety level is dependent on a strong and well-functioning chain, from the government via the Swedish Rail Agency all the way to the operators. For this reason, the national safety level is described in the form of objectives and safety-enhancing activities that are implemented by both the Swedish Rail Agency and the operators.

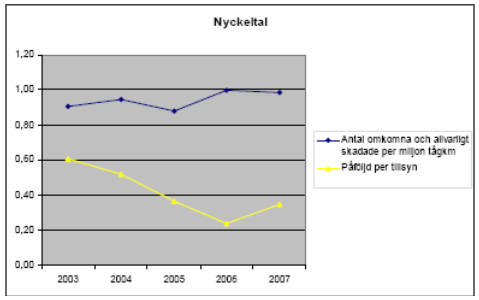
D.1 National safety

D.1.1 Safety targets

The targets set by the Swedish government in the spending directive to the Swedish Rail Agency require the Swedish Rail Agency to help ensure socio-economically effective and long-term sustainable transport services for the public and businesses throughout the country. In the safety targets which form part of the spending directive, the government has specifically required that the Swedish Rail Agency work towards greater safety in the rail, tram and metro systems. Each year, the Swedish Rail Agency monitors the number of people killed and seriously injured on the railways. In the annual reports for 2005, 2006 and 2007, the total number of people killed and seriously injured (including suicides) per million train kilometres was compared with the number of penalties in the form of bans and injunctions and observations[15] relative to the number of inspections.

[15] The measure of issuing observations was discontinued in autumn 2007.

Key ratios



Number of deaths and serious injuries per million train kilometres
Penalties per inspection

Figure 2: Safety-related key ratios for the rail system. Data taken from the Swedish Rail Agency's annual report for 2007 also includes trams, metros and independent rail networks. The key ratio for the number of deaths and serious injuries per train kilometre is therefore somewhat higher than the data supplied as an indicator to the ERA and used in other sections of this report. The diagram nonetheless gives a rough indication of the number of deaths and serious injuries per million train kilometres for the last several years.

D.1.2 Safety-enhancing activities

In Sweden, the supervision of the various actors in the railway sector has, since 1996, been aimed at checking that the operators have a well functioning self-regulation system and are able to take appropriate measures when a deficiency occurs. Hence, as part of its supervisory activities, the Swedish Rail Agency checks the operators' compliance with the current regulatory framework and that they have the organisation, routines, delegation of responsibility, finances, etc., to ensure that they can continue to meet the requirements of their permits.

The measures/actions that the Swedish Rail Agency has a mandate to take include bans with or without penalty, injunctions with or without penalty and ultimately suspension of permits. It is the operators who take the actual measures to reduce the number of unwanted events (accidents, incidents and other deficiencies). The Swedish Rail Agency monitors whether the operators take appropriate action.

In 2007, the Swedish Rail Agency issued an order to all railway undertakings to implement compulsory testing of braking ability using ATC. The reason for this order was repeated events which had demonstrated the difficulty for drivers of determining a train's braking ability simply through test braking/deceleration monitoring without using ATC. The recommendations of the Swedish Accident Investigation Board following a near collision in Gårdsjö on 28 February 2005 were also a contributing factor. More may be read about the recommendations in section H.1.

Safety-enhancing activity	Description of initiating event
Order to all railway undertakings to implement compulsory testing of braking ability using ATC	Repeated events in which it had been difficult for the driver to determine a train's braking ability simply through test braking/deceleration monitoring without using ATC. Recommendation of the Swedish Accident Investigation Board following a near collision in Gårdsjö on 28 February 2005. (Report RJ 2007:1)

Table 2: Events leading to safety-enhancing activity by the Swedish Rail Agency.

D.2 Safety of the operators

The majority, approximately 90%, of the operators who submitted a safety report have not experienced any serious events that led to anyone being killed or seriously injured.

Apart from the CSIs, the safety reports include information on:

- The safety targets of the operations
- Actions taken with a view to increasing the level of safety
- Description of the system audits carried out

D.2.1 Safety targets

The operators that have railway operations as their main activity have all specified their safety targets. Of all the safety reports received, 108 operators out of 171 specified their safety targets (63%). Municipalities often have general targets for their operations but not targets broken down for the infrastructure they manage and the majority of them have therefore not reported safety targets.

The targets provided are often expressed in terms of no-one being killed or seriously injured through the organisation's own activities. Answers in the safety reports also include examples of quantitative targets, such as a maximum of 20 accidents during shunting that could be affected by internal actions or no train collisions/train derailments, no more than 20 fires in railway vehicles and no more than 20 shunting accidents, or reducing the number of accidents costing more than SEK 100,000 to 10. Other examples of targets are to improve deficiency reporting in order to be able to prevent accidents or that the traffic safety index must be no lower than 94, where 100 means no accidents and every accident is given a value based on its seriousness.

D.2.2 Safety-enhancing activities

Of the safety reports received, 65 operators (38%) indicated that they have taken safety-enhancing measures due to an occurrence or incident or as preventive measures, without any serious consequence necessarily being associated with the occurrence. Less serious occurrences, such as incidents and events with an effect that was not as serious as it could have been, have also led to the implementation of safety-enhancing activities. Any accidents are usually discussed at subsequent refresher training or information meetings

with crew/contractors. A personal discussion is often also held with the person concerned where the event involved negligence. Occasionally, new internal instructions have been drawn up and passed on to the employees. Common activities also include maintenance and improved enforcement of planned maintenance.

Several of the operators have implemented safety-enhancing activities for preventive purposes, such as improving deficiency reporting.

Table 3 below shows some examples of safety-enhancing activities implemented by operators and the reason for doing so.

Reason	**Consequence or potential consequence**	**Activities**
Negative trend in the form of an increase in the number of shunting accidents.	Risk of injury to people, damage to the environment or stock.	Implementation of MTO analysis.
Unacceptable number of unauthorised SPADs (signals passed at danger).	Ultimately this could lead to a collision.	Follow-up of driver crew.
The need to increase traffic safety and improve the attitude towards traffic safety among staff.	Accidents	Project for incident reporting which resulted in new procedures and system support, quicker feedback to those submitting reports, a guarantee that staff will not suffer any negative consequences as a result of reporting their own mistakes and a regular information sheet recording reports and measures. Since then deficiency reporting has increased and accidents have decreased.
Incorrect loading	Shed load	Signed lists for function monitoring.

Table 3: Examples of safety-enhancing activities reported by operators.

Table 4 shows examples of events which caused the state-owned infrastructure manager to implement safety-enhancing activities. The state-owned infrastructure manager has written in its report that whereas traffic safety work has for many years mainly focused on level-crossing measures, it is now more diversified and aimed at measures to prevent people from being hit as well as various safety-enhancing measures in the building of infrastructure.

Occurrence	Description	Consequence	Activities
Landslip at Ånn, 30 July 2006	Railway and road embankments undermined by an unusually large amount of water. Railway embankment collapsed immediately behind a passenger train.	Could have had very serious consequences.	Together with the Swedish Road Administration, an investigation was carried out into the risk of landslip and landslide. Activities resulting from the landslip in Ånn and Bohusbanan in 2006 have continued with the development of risk assessment methods. A guideline called "Risk analysis for selected stretches of railway" has been produced.
Level-crossing accident in Ekträsk in 2005	An empty goods train collided with an HGV trailer loaded with excavators which had become stuck on the level crossing.	The train driver jumped from the train before the collision and was seriously injured. The train and 3-4 carriages were derailed causing major damage to the track and overhead lines. The accident could have had even more serious consequences.	Inspection of level-crossings for deficient road profiles.
Collision on a monitored stretch of track in Hok in 2003.	A goods train was let out into the path of a passenger train, colliding with it at stand-still at the platform.	Could have had very serious consequences.	Reinforcement of the system for the dispatch of trains through forced MobiSIR, electronic dispatch journal and ERTMS regional.
LPG train accident at Borlänge, in 2000	Goods train exceeding line speed, derailed in a switch curve.	Could have had very serious consequences.	Elimination of ATC islands.
Heat and unintended braking on various occasions.	Heat and unintended braking can lead to derailment on the line at high speeds.	May have very serious consequences.	More and better detectors.

Table 4: Events that triggered safety-enhancing activities of a more national nature by the state-owned infrastructure manager.

D.3 Common safety indicators

This section presents observations on the common safety indicators (CSIs). In principle, CSIs should be presented as an average value based on values for five years. Since 2007 is only the second year information has been collected in this way, the indicators for 2007 are presented as an average based on the value for two years (2007 and 2006). The CSIs consist of data on accidents and deficiencies which have occurred set against the number of train kilometres or, in certain cases, passenger kilometres. Definitions used for the information collected are specified in Annex F. In most cases, the definitions in the Safety Directive were used, except in certain cases where national definitions were used, as shown in the table in Annex C. Some basic information on the rail system's volume of traffic, track lengths and level crossings was also collected for the purposes of calculating safety indicators, for example. All data collected are shown in Annex C.

As some infrastructure managers and railway undertakings are exempt from submitting safety reports (see section B3), the indicators are not a measure of all railways in Sweden. For example, operations on local and regional rail networks that are independent and only intended for passenger or museum transport, such as Saltsjöbanan and Roslagsbanan, are excluded from this report. The figures for the number of deaths and serious injuries is therefore different from the figures provided annually by Sweden to Eurostat and from the figures that are published annually in SIKA's official statistics publication, *Bantrafik*[16] . As the Swedish Rail Agency did not allow exemptions for operations on local and regional rail networks for the previous year, the indicators for 2006 have also been updated so that they are comparable with those for 2007.

D.3.1 Accidents

In 2007, 56 (46) accidents occurred which required reporting in accordance with Annex 1 to the Safety Directive[17]. The figures in parentheses relate to 2006. Where two figures are shown in parentheses, the first relates to 2007 and the second to 2006.

In short, accidents involving railway vehicles in motion resulting in the death or serious injury of at least one person at a cost of more than SEK 1.4 million or in the complete blockage of traffic for at least six hours are included in these figures.

One indicator calculated is the number of accidents per million train kilometres. In 2007, there were 0.42 accidents per million train kilometres and the average for 2006 and 2007 is 0.39 accidents per million train kilometres. The volume of traffic has increased; in 2007 around 134 million train kilometres were travelled[18].

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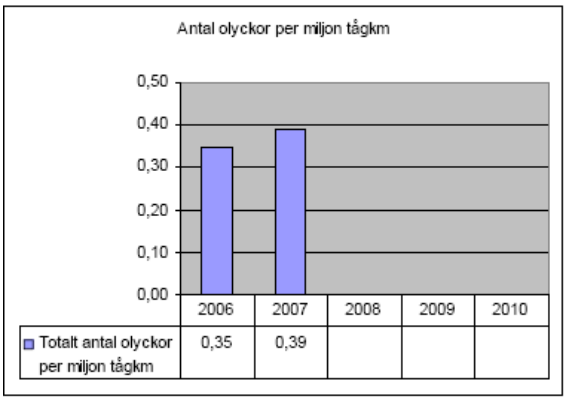
[16] See Annex F for more a detailed account of the differences in accident statistics.

[17] Accidents in which at least one rail-borne vehicle in motion was involved and in which at least one person was killed or seriously injured, or in which damage to material, tracks or other installations resulted in costs of at least two hundred and fifty thousand euro. Accidents having significant consequences for the environment or which significantly delay rail traffic are also accidents that must be reported. Incidents of suicides are excluded. See definitions, Annex F.

[18] Somewhat unreliable data, based on the information submitted by the railway undertakings; independent networks, such as Roslabsbanan and Saltjöbanan, are not included.

Number of accidents per million train-km



Total number of accidents per million train-km

Figure 3: Graph showing the number of accidents per million train kilometres. The figure reported for 2007 is an average of the figures for 2006 and 2007.

Accidents are subdivided into the following accident categories: train collisions, train derailments, level-crossing accidents, accidents to persons caused by rolling stock in motion, fires in rolling stock and others.

The accident categories with the greatest numbers of accidents reported are level-crossing accidents (14 in 2007, 13 in 2006) and accidents to persons (20, 16) caused by rolling stock in motion. Accidents reported in these accident categories have in most cases led to people being killed or seriously injured. Train derailments (11, 5), train collisions (1, 3) fires (4, 3) and others (6, 6) were in most cases reported due to their serious consequences in terms of the cost of damage and/or major traffic disruption. They did not, however, lead to anyone being killed. The fact that the number of derailments reported was higher in 2007 than in 2006 may be due to the fact that this is now the second year in which the term "significant traffic disruption" has been applied in accident reporting in the safety reports and it is now more established than it was in the previous year. Eight of the 11 derailments in 2007 were reported because of significant traffic disruption while the other three were reported because of the large costs of damage.

No passengers have been killed in Sweden by a derailment or collision since 1990. Several of the accidents classified as "others" also involve collisions and derailments but involved shunting movements.

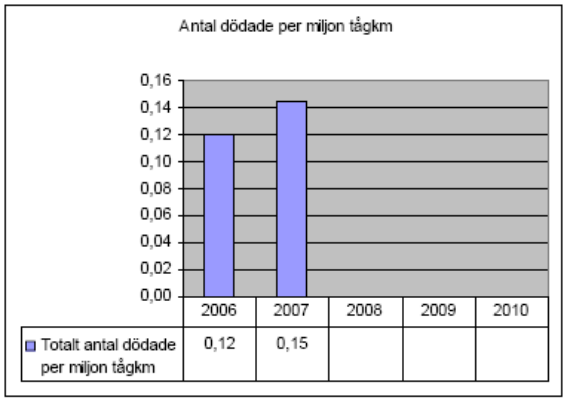
The accidents that still occur too frequently and result in personal injury are level-crossing accidents and accidents to persons caused by rolling stock in motion. These accidents are mainly due to two factors. Level-crossing accidents are caused by road users who do not notice an approaching train or the crossing protection system's danger signals. Accidents to persons caused by rolling stock in motion are mainly due to unauthorised persons on the track. Besides these accidents, in 2007 there were also 78 suicide attempts, which resulted in death or serious injury (68 in 2006).

D.3.2 People killed and seriously injured

This group of indicators shows the number of people killed and seriously injured. In 2007, 23 (16) people died and 14 (13) were seriously injured. The indicator "people killed per million train kilometres" was 0.17 per million train kilometres for 2007; the average

figure for 2006 and 2007 was 0.15. This means that 1.5 persons were killed for every 10 million train kilometres travelled. No passengers or employees were killed during the year.

Number of people killed per million train-km

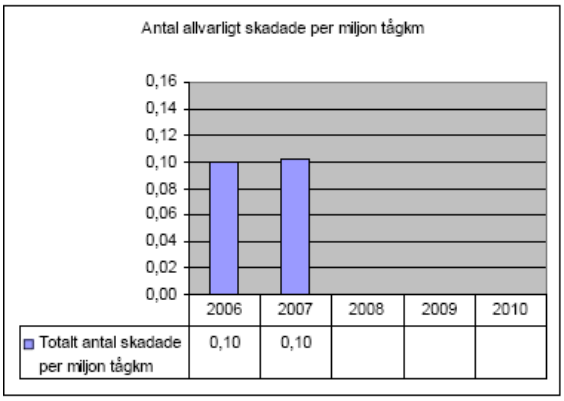


Total number of people killed per million train-km

Figure 4: Indicator "number of people killed per million train kilometres". The figure reported for 2007 is an average of the figures for 2006 and 2007.

The indicator "number of people seriously injured per million train kilometres" is 0.10 per million train kilometres, as shown by the graph below.

Number of people seriously injured per million train-km



Total number of people injured per million train-km

Figure 5: Indicator "number of people seriously injured per million train kilometres". The figure reported for 2007 is an average of the figures for 2006 and 2007.

In 2007, 14 (13) persons were seriously injured. There is some uncertainty about this figure because Sweden has previously used a national definition to determine when a person should be considered seriously injured. In accordance with this national definition, a person is seriously injured if the injury led to at least 14 days' sick leave. The definition of people seriously injured to be used for the indicators (24 hours of hospital treatment) has been introduced into the Swedish Rail Agency's regulations (JvSFS 2007:1) on accident and safety reporting, which came into force on 1 July 2008.

Of the 37 people seriously injured or killed in 2007, five were children[19] – two girls and three boys. Of the remaining 32, 5 were women and 27 men.

[19] Children are people under 18 years of age.

In the level-crossing accidents, it was the users of the level crossing, i.e. road users, that were killed (9, 7) or seriously injured (8, 5). Accidents to persons mainly involved unauthorised persons on the track being struck or run over. In these accidents, 14 (9) persons were killed and 2 (4) were seriously injured. No passengers or employees were killed or seriously injured during derailments, fires, level-crossing accidents or collisions. It should be noted that an accident to a person where that person is struck or run over by a train is almost always fatal. In level-crossing accidents, however, it is often a matter of chance whether these will result in no personal injury (for example when a vehicle's interior is left undamaged in the accident) or in some degree of personal injury.

D.3.3 Technical safety of infrastructure

This group of indicators shows the percentage of tracks fitted with ATP (Automatic Train Protection) and the percentage of level crossings with automatic or manual crossing protection systems.

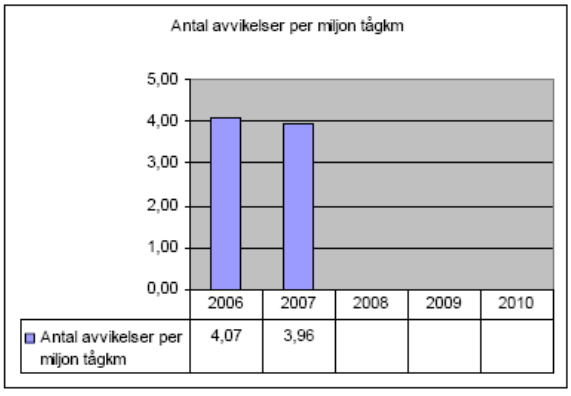
Approximately 66% of tracks have ATP. The majority of traffic is therefore on tracks which are extremely safe in technical terms.

The indicator in this category with the largest impact on accidents in 2006 and 2007 is the existence of level crossings. The state-owned infrastructure manager has for several years worked actively on improving the safety of level crossings, resulting in a downward trend in the number of serious level-crossing accidents. One of the measures used was to remove level crossings without an active crossing protection system and replace them with level crossings with an automatic crossing protection system. Of all level crossings, around 33% are fitted with some kind of crossing protection system.

D.3.4 Deficiencies

This indicator combines all reported deficiencies relating to broken rails, track geometry faults, broken axles and wheels, unauthorised SPADs (signals passed at danger) and wrong-side signalling failures. In 2007, 517 (530) deficiencies were reported and the indicator gives a value of 3.85 deficiencies per million train kilometres in 2007 and 3.96 as an average for 2006 and 2007.

Number of deficiencies per million train-km



Number of deficiencies per million train-km

Figure 6: Indicator "number of deficiencies per million train kilometres". The figure reported for 2007 is an average of the figures for 2006 and 2007.

As in the previous year, two types of deficiency clearly dominate in this category of events: 187 (241) broken rails and 217 (187) SPADs. Another large group is track

geometry faults, with 102 (79) deficiencies reported. It should be noted that the Swedish Rail Agency's report includes all incidents involving broken rails, i.e. also those on railway sidings. The number of broken rails on railway tracks is therefore lower. These events are reported in this way because the reporting requirement also includes broken rails on railway sidings. It should also be noted that the number of other deficiencies was low. There were 6 (6) wrong-side signalling failures, 2 (8) broken wheels, and 3 (9) broken rails reported.

The number of unreported cases is unclear because not all deficiencies are reported when they occur. A possible reason for this is that a deficiency is not always as clear-cut as an accident, with the result that those involved do not always think of reporting a SPAD, for example.

However, it is important to continue to monitor the deficiencies as they can presage serious accidents. Some operators have also found it difficult to determine what should be classed as a broken wheel or a wrong-side signalling failure, for example. This may become clearer when the guidance for indicators, which the ERA is currently developing, is available. As the basis is unreliable, an increased number of reported deficiencies may be just as much the result of better methods for recording deficiencies as of an actual increase in deficiencies.

D.3.5 Costs and working hours lost as a consequence of accidents

This indicator is an attempt to measure the total costs arising in the rail system as a consequence of accidents. Costs are expressed in million euro[20] and are related to the number of train kilometres travelled (in million train kilometres).

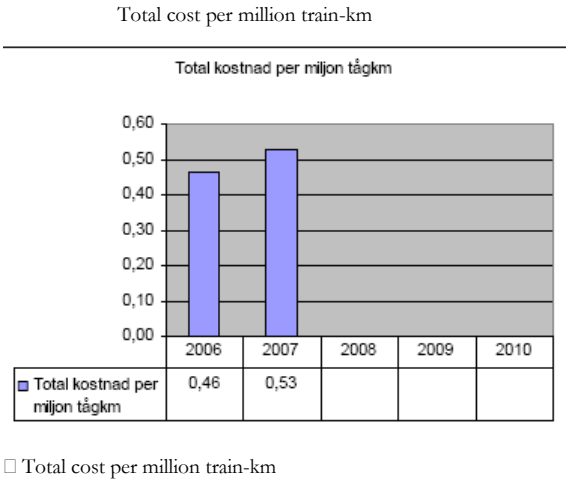


Figure 7: Indicator for costs caused by accidents per million train kilometres. The figure reported for 2007 is an average of the figures for 2006 and 2007.

The costs included in the figure above are for costs relating to death and injury, to the replacement or repair or railway infrastructure and rolling stock, to delays, disruption and re-routing of traffic, including extra costs for staff and loss of future revenue. See definitions in Chapter F.

The reporting operators stated that this data is very unreliable. Since this is only the second year the indicators have been reported, not all systems are yet adjusted for fully

[20] For calculating costs in euro, an exchange rate of EUR 1 = SEK 9.30 was used.

reliable reporting. However, the systems are currently being developed and improved. For these reasons it is not possible to draw any conclusions from the information reported. The fact that the figure is higher in 2007 should be seen as an indicator of improved reporting. The information for 2007 is based entirely on the operators' own data. The ERA is currently working to produce a methodology for calculating the costs of delays.

Operators with railway operations as an ancillary activity report a disproportionately large number of working hours, e.g. a major industry with one railway track devotes only a fraction of its working hours to railway operations but is obliged to report the total working time. As a result, indicators based on information concerning working hours will not be comparable to those from operators with railway operations as their main activity. The proportion of working hours lost as a result of accidents in 2007 is 0.02%, but it should be noted that not all operators have reported the total number of hours worked.

D.3.6 Safety management

The key ratio used is that between the number of system audits planned by the operators (194) and the number performed (188) in 2007. It is difficult to see how this key ratio will provide an acceptable basis for drawing any conclusions regarding the level of the operators' safety management systems.

40 operators have reported that they planned and carried out system audits during 2007. The interpretation of a system audit varies, however. Only in a few cases have audits been conducted in accordance with the definition of the Safety Directive[21]. Some operators have carried these out while others have reported that they are planned for 2008. Several of the operators' audits have principally consisted of planned inspections.

[21] See Annex F.

E IMPORTANT CHANGES IN LEGISLATION AND THE REGULATORY FRAMEWORK

Most of the changes in railway legislation relate to the implementation of Directive 2004/49/EC (Railway Safety Directive). The most important changes are described below.

Operations on local and regional rail networks that are independent and only intended for passenger or museum transport have, since 1 July 2007, been exempt from the regulations concerning separate reporting (Swedish Railway Act, Chapter 4 (2004:519)), the allocation of infrastructure capacity (Railway Act, Chapter 6) and from the regulations concerning charges for the use of the railway infrastructure (Railway Act, Chapter 7). The provisions of Chapters 6 and 7 also do not apply (as of 1 July 2007) to operators of railway networks not managed by the state and only used by infrastructure managers for transporting their own goods.

Chapter 2, Section 5, of the Railway Act has been amended and Chapter 2 Section 5a has been added (1 July 2007) as a result of the requirement for safety management systems and safety reporting in accordance with Directive 2004/49/EC (Railway Safety Directive).

The provisions of Chapter 3, Section 3, of the Railway Act concerning the licensing of railway operations have been amended as a result of the requirements of Directive 2004/49/EC. As of 1 July 2007, safety certificates are divided into a Part A and a Part B.

The provisions of the Railway Act concerning the investigation of accidents (Chapter 2, Section 6) and the corresponding provisions of the Investigation of Accidents Act (1990:712) and the Investigation of Accidents Ordinance (1990:717) have been amended (1 July 2007) in order to comply with the provisions of Directive 2004/49/EC. Among other things, the criteria for when an accident should be investigated have been amended to a certain extent and it is now the Swedish Accident Investigation Board that will investigate accidents that fall within the supervision remit of the Swedish Rail Agency.

The provisions of the Railway Act concerning the approval of subsystems have been amended (1 July 2007) to a certain extent, so that, among other things, the requirements for interoperability (Chapter 2 Sections 8-12) do not need to be observed when inspecting museum railway vehicles and vehicles on some independent rail networks (Chapter 2 Section 13).

New regulations have been added to the Railway Act (Chapter 2 Section 13b) as a result of Directives 96/48/EC and 2004/49/EC stipulating that railway vehicles must be marked with an identification code indicating ownership.

New regulations have been added to Chapter 4 Section 1a of the Railway Ordinance (2004:526) entitling railway undertakings to organise and carry out overnight or charter transport operated under commercial conditions on state-managed rail networks.

The Swedish Rail Agency has issued four regulations for railway undertakings in 2007 – two concerning safety management systems, one concerning the application for a permit to conduct railway operations and one concerning the registration and marking of railway vehicles. See specification in Annex D.

Other

On 9 May 2008, the Swedish Rail Agency adopted new regulations for accident and safety reporting (Swedish Rail Agency regulations (JvSFS 2008:1) on accident and safety reporting for railways). The regulations concerning the safety reports of railway undertakings and infrastructure managers represent a clarification of Annex 1 to Directive 2004/49/EC (Railway Safety Directive).

F DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION

The requirement for safety certificates and safety authorisation in accordance with Directive 2004/49/EC (Railway Safety Directive) has been implemented through amendments to the Swedish Railway Act, which came into force on 1 July 2007. The requirements can now be found in Chapter 3, Section 3, and Chapter 3, Section 7, of the Railway Act.

F.1 National legislation

1.1. Starting date for issuing safety certificates in accordance with Article 10 of Directive 2004/49/EC was 1 July 2007.

1.2. Starting date for issuing safety authorisations in accordance with Article 11 of Directive 2004/49/EC was 1 July 2007.

1.3. Railway undertakings and infrastructure managers have access to national safety rules and other relevant legislation on the Swedish Rail Agency's homepage at www.jvs.se under the link "Acts and ordinances". The Swedish Rail Agency also publishes a manual containing relevant legislation and its own regulations (this manual is also available on the homepage). The Swedish Rail Agency's new regulations are also sent by post to all holders of authorisations along with an information letter.

F.2 Numerical data

The Railway Safety Directive came into force in Sweden on 1 July 2007. Annex E contains the relevant numerical data.

F.3 Procedural aspects

Queries can be found in Annex G.

3.1 Part A safety certificates

3.1.1 No update or renewal carried out.

3.1.2 No infringements occurred.

3.1.3-3.14 No comments

3.1.5. No, but this is being looked into and will result in the introduction of charges from 2010.

3.1.6-3.1.8 The problem has been getting the railway undertakings to understand the difference between the content of parts A and B.

3.1.9 No specific structure introduced for complaints or observations concerning this. However, there is the option of appealing against the decision of the authorities. There are regular company meetings for the railway undertakings.

3.2 Part B safety certificates

3.2.1 A change has been made to Part B safety certificates as a result of changes in the extent of traffic.

3.2.2 No infringements occurred.

3.2.3. No, but this is being looked into and will result in the introduction of charges from 2010.

3.2.4-3.2.6 See comments for 3.1.6-3.1.8.

3.2.7 See comments for 3.1.9.

3.3 Safety authorisations

3.3.1 No update or renewal carried out.

3.3.2 No infringements occurred.

3.3.3 Nothing in particular.

3.3.4 Nothing in particular other than what smaller infrastructure managers consider to be bureaucratic.

3.3.5 Appeals may be made against all decisions. There are regular company meetings for the infrastructure managers.

3.3.6. No, but this is currently being looked into.

G SAFETY SUPERVISION

G.1 Safety supervision by the Swedish Rail Agency

An overall aim of the Swedish Rail Agency is that all safety supervision should preferably be conducted in the form of safety audits whose purpose is to examine the operators' safety management systems.

In order to identify which operators should be inspected, the methodology has increasingly turned towards a risk perspective. The following two criteria are indicative of how supervision activities are conducted:

- Operations where an accident could have a major impact and the probability of such an accident happening is not negligible.
- Operations with a high probability of an accident occurring, the consequences of which would not be acceptable.

Furthermore, the aim is to conduct preliminary planning of supervision activities. Planning is re-evaluated every three months on the basis of events which have occurred. Planning now also allows for the quick launch of renewed supervision, if an event indicates the need for this. Supervision has thus become both risk and event based to enable a quick reaction to changes in the rail system. Both internal procedures and checklists have been prepared for supervisory operations.

All audits are carried out by the Swedish Rail Agency's own staff. According to the documentation for the 2007 annual report, approximately 12 administrators (6.7 full-time equivalents) handle safety supervision. An average of 11,390 working hours went into the process of safety supervision in 2007. This corresponds to approximately 13% of the Swedish Rail Agency's total capacity (administrative staff are included in the total workforce). Supervision cost SEK 5,793,038.23 in 2007.

In 2007, no inspections or audits were carried out on the basis of requirements in the Safety Directive since it was only incorporated into national law on 1 July 2007. However, the Swedish Rail Agency did carry out both inspections and audits in 2007 on the basis of the legislation applicable at the time. The tables below indicate the number of supervision activities.

Number of inspections carried out by the Swedish Rail Agency

		Part A safety certificates issued	Part B safety certificates issued	Safety authorisations issued	Other activities (specified)
3. Number of inspections by JF/IF during 2007	**Planned**	**0**	**0**	**0**	**Inspections 200** **Company meetings 12** **Specialist inspections 4**
	Carried out	**0**	**0**	**0**	**Inspections 225** **Company meetings 12** **Specialist inspections 4**

Table 5: Numbers of inspections planned and carried out in 2007.

A comparison between the number of inspections carried out and the number of inspections planned reveals that 239 were carried out and 219 were planned, a performance rate of 110%.

Number of audits carried out by the Swedish Rail Agency

		Part A safety certificates issued	Part B safety certificates issued	Safety authorisations issued	Other activities
4. Number of audits by JF/IF during 2007	**Planned**	0	0	0	2
	Carried out	0	0	0	2

Table 6: Numbers of audits planned and carried out in 2007.

In 2007, two audits were carried out and two had been planned, a performance rate of 100%.

Number		
RESULTS	Bans	2
	Orders	75
	Remarks	7
	Prosecutions	0

Table 7: Summary of results from supervision activities in 2007.

As can be seen in Table 7, supervision activities carried out in 2007 resulted in 84 bans, orders or remarks, with injunctions as the most typical result from supervision activities. The use of remarks was ended in 2007, which means that appeals can now be made against all decisions taken by the Swedish Rail Agency imposing penalties.

The most common deficiencies uncovered by supervision activities concerning infrastructure managers are that measures are not taken at the right time following an inspection of the track system. Another common deficiency is that the traffic safety instructions of undertakings are not updated. There are even cases where inspections are not carried out at all. Track has also been incorrectly replaced following work on the track system, which has led to a number of derailments. The safety management systems of the railway undertakings mostly function well. Some deficiencies have been identified, however, in terms of the internal deficiency reporting of the undertakings and the way that they handle the training of their own staff. An inspection of the load safety of timber transports identified deficiencies at one undertaking. The inspection of procedures for the inspection and maintenance of vehicles showed that the vast majority of undertakings had no deficiencies.

H RECOMMENDATIONS FROM THE SWEDISH ACCIDENT INVESTIGATION BOARD AND CONCLUSIONS

H.1 Recommendations from the Swedish Accident Investigation Board

In 2007, the Swedish Rail Agency worked on recommendations from the Swedish Accident Investigation Board concerning a near collision in Gårdsjö on 28 February 2005.

The recommendations made after the incident were as follows:

1. That carriages with air exhaust and coupling cranes corresponding to those investigated be modified in order to reduce the risk of water penetration via the coupling valves' extraction holes.
2. That procedures be introduced relating to the connection of hose couplings in winter that will reduce the risk of snow and ice getting into the hoses.
3. That procedures be introduced to ensure that drivers have a reasonable opportunity to check that the braking ability is as expected, both after the train's composition has been altered or a change in driver has taken place, and if conditions change once the transport has begun.

The Swedish Rail Agency's measures based on these recommendations are as follows:

1. The Swedish Rail Agency considers it impossible to stipulate national requirements for the design of coupling valves. Instead, the Swedish Rail Agency will monitor this in its continuing work on TSIs in relation to rolling stock.
2. The Swedish Rail Agency, in Annex 11, "Brakes", to its traffic regulations (JvSFS 2008:7), has stipulated that the safety regulations of railway undertakings must contain provisions concerning the technical equipment of the vehicles that may affect the brakes (covers hose couplings, for example, and procedures for them).
3. The Swedish Rail Agency has ordered all railway undertakings to introduce rules on the compulsory testing of braking ability using ATC, among other things. The Swedish Rail Agency has also stipulated the following rules on brake testing in Annex 11, "Brakes", to JvSFS 2008:7:

Deceleration testing should be carried out in a suitable place on a horizontal rail after the train or goods transporter has left a place where one of the following has occurred:

- brake testing has been carried out
- the composition has been altered
- brake category or load changeover setting has been altered.
- the brakes have been turned off for some vehicles

- there has been a change of train driver.

Deceleration testing should also be carried out if the driver feels that the train or goods transporter has considerably less braking ability than it should or if prompted to do so by operating conditions, such as temperature or weather conditions.

H.2 Conclusions and priorities

The common safety indicators show that the safety level in the rail system is high. Relatively few accidents occur in which people are killed or seriously injured. In terms of passengers, none have died and 0.0001 were seriously injured per million passenger kilometres. Even in terms of non-passengers, only 0.28 have been killed or seriously injured per million train kilometres, excluding suicide attempts (0.86 including suicide attempts).

Ten more accidents were reported in 2007 than in 2006. As mentioned in the report, the higher number of derailments reported in 2007 may be due to the fact that this is now the second year in which the criterion "significant traffic disruption" has been applied and it is now more established than it was in the previous year. Some of the information requested in the safety reports is relatively new for the operators to report and an increased number of reported deficiencies in a specific category may therefore be just as much the result of better methods of identifying deficiencies as of an actual increase in deficiencies.

From the weighted accounts given in the safety reports, the Swedish Rail Agency concludes, as it did last year, that the players in the rail system are well able to handle risks within the rail system and so avoid rail accidents. However, it is more difficult to exert influence and implement specific safety-enhancing activities when accident-affected areas border on other areas.

Statistical data indicates that accidents where people are seriously injured or killed fall into the category of level-crossing accidents and accidents to persons, both of which involve an interface of the rail system with other areas of society. When the Swedish Rail Agency becomes part of the Swedish Transport Agency on 1 January 2009, this should mean greater scope for cooperation between the various forms of transport, with a view to reducing the number of these accidents.

As last year, the main impression from the operators' safety reports is that railway undertakings as well as infrastructure managers are thorough and sincere in their safety work. Many of the operators have provided examples in this year's safety reports of preventive safety-enhancing activities.

The Swedish Rail Agency has, in 2007 and 2008, continued its work on developing working methods that can point up existing or emerging safety risks at an early stage. Supervision methods have been systematised and are now always based on the operators' safety management systems. All events reported to the Swedish Rail Agency are systematically assessed for risk. Risk assessment of new and reviewed authorisations is an example of the further development of risk-based working methods. Another example, which is in development, is a system based on self-assessment.

One of the future priority areas for the Swedish Rail Agency is to produce the national technical specifications required in addition to the technical specifications for interoperability. During 2008, the Swedish Rail agency has also issued common traffic rules for the entire Swedish railway system that will come into effect on 31 May 2009.

Annex A.1: The state-owned rail network

Figure 29.

ATC 2002

Källa: Järnvägens framtidsplaner 2004 – 2015, sid 75, Banverket.
(www.banverket.se)

Source: Järnvägens framtidsplaner ("Future plans for the railways") 2004-2015, p. 75, Swedish Rail Administration. (www.banverket.se)

Annex A.2.1: List of active infrastructure managers in 2007

For the web address with a published rail network description, please see the Swedish Rail Administration's homepage: www.banverket.se Click on the link *Banportalen*.

Name	Address	Postcode	Place
Aarhus Karlshamn Sweden AB	V. Kajen (West Quay)	SE-374 82	Karlshamn
AB Banankompaniet	PO Box 27294	SE-102 53	Stockholm
AB Bohmans Fanerfabrik	PO Box 544	SE-572 25	Oskarshamn
AB Borlänge Energi	PO Box 834	SE-781 28	Borlänge
AB Elektrokoppar	PO Box 914	SE-251 09	Helsingborg
AB Gustaf Kähr	PO Box 805	SE-384 28	Blomstermåla
AB Hannells Industrier	PO Box 174	SE-311 22	Falkenberg
AB Impregna	PO Box 76	SE-771 22	Ludvika
AB Karl Hedin Emballage	PO Box 84	SE-775 26	Krylbo
AB Motala Verkstad	PO Box 950	SE-591 29	Motala
AB O Hallqvist Återvinning	PO Box 204	SE-665 25	Wedge
AB Rundvirke	PO Box 6	SE-820 26	Marmaverken
AB Sandvik Materials Technology		SE-811 81	Sandviken
AB SkandiaTransport	PO Box 50	SE-261 22	Landskrona
AB Stabsvecia Södra Vi	PO Box 40	SE-590 80	Södra Vi
AB Storstockholms lokaltrafik	Lindhagensgatan 100	SE-105 73	Stockholm
AB Strängbetong	Örnvägen 20	SE-890 51	Långviksmon
AB Strängbetong	PO Box 500	SE-736 25	Kungsör
AB Strängbetong	PO Box 137	SE-430 20	Veddige
AB Svenska Shell		SE-167 80	Bromma
AB Wibe	PO Box 401	SE-792 27	Mora
AB Västerbottens Fodercentral	PO Box 76	SE-913 22	Holmsund

ABB Automation Technologies AB	PO Box 865	SE-971 26	Luleå
ABB Fastighet AB	PO Box 6350	SE-721 57	Västerås
ABetong Precon AB	Hästhagen	SE-340 30	Vislanda
Akzo Nobel Base Chemicals AB	PO Box 503	SE-663 29	Skoghall
Akzo Nobel Functional Chemicals AB	Stenunge Allé 3	SE-444 31	Stenungsund
Akzo Nobel Salt AB	PO Box 344	SE-401 25	Gothenburg
Akzo Nobel Surface Chemistry AB	PO Box 13028	SE-850 13	Sundsvall
Almer Oil Company AB	Cisternvägen	SE-805 95	Gävle
Alstom Transport AB	Gamla Brogatan 34	SE-111 20	Stockholm
Arctic Paper Håfreströms AB	Box	SE-464 82	Åsenbruk
Arctic Paper Munkedals AB	Stampgatan 14	SE-411 01	Gothenburg
Ardagh Glass Limmared AB		SE-514 83	Limmared
Arizona Chemical	PO Box 66	SE-820 22	Sandarne
Armstrong World Industries AB	PO Box 5	SE-913 21	Holmsund
Assi Domän Nord Trä AB, Lövholmen	PO Box 740	SE-941 28	Piteå
A-Train AB (Arlanda Express)	PO Box 130	SE-101 22	Stockholm
Axel Bergkvist AB	PO Box 401	SE-793 13	Insjön
BAE Systems Hägglunds AB		SE-891 82	Örnsköldsvik
Swedish National Rail Administration		SE-781 85	Borlänge
Municipality of Berg	PO Box 73	SE-840 40	Svenstavik
Bergslagernas Järnvägssällskap (BJs)	Bergslags-Lärje	SE-415 02	Gothenburg
Bharat Forge Kilsta AB	PO Box 428	SE-691 27	Karlskoga
Billerud AB Gruvöns Bruk	PO Box 500	SE-664 28	Grums
Billerud Karlsborg AB		SE-952 83	Karlsborgsverken
Billerud Skärblacka AB	Skärblacka Mill	SE-617 10	Skärblacka
Blåsbälgen 1 Fastighets AB	c/o Ax Fast AB	SE-164 94	Kista
Bläster och lack i Luleå AB	Betongvägen 34	SE-973 45	Luleå
Bodafors Trä AB	PO Box 111	SE-570 21	Malmbäck

Boden Municipality	Town Hall	SE-961 86	Boden
Boliden Bergsöe AB	PO Box 132	SE-261 22	Landskrona
Boliden Mineral AB, Rönnskär Smelter	Rönnskär Smelter	SE-932 81	Skelleftehamn
Bombardier Transportation Sweden AB		SE-721 73	Västerås
Botniabanan AB	Strandgatan 7	SE-891 33	Örnsköldsvik
Boxholm Timber AB	PO Box 12	SE-590 10	Boxholm
Brinova Trelleborg AB	c/o Brinova Fastigheter AB, Ve	SE-252 27	Helsingborg
Brogårdsand AB	PO Box 117	SE-566 22	Habo
Bruza Timber AB	Bellö	SE-570 32	Hjältevad
Bräcke kommun, Bräcke	PO Box 190	SE-840 60	Bräcke
Bröderna Edstrand AB	PO Box 6054	SE-600 06	Norrköping
Bröderna Edstrand AB	PO Box 225	SE-201 22	Malmö
BS Mekaniska Verkstads AB	PO Box 84	SE-521 84	Falköping
Burlöv Municipality	PO Box 53	SE-232 21	Arlöv
Bäckstaken Umeå AB	PO Box 1221	SE-901 22	Umeå
Callans Trä AB	Öhlingsholm	SE-841 97	Erikslund
Casco Products AB	PO Box 13000	SE-850 13	Sundsvall
Casco Products AB	PO Box 422	SE-681 29	Kristinehamn
Cementa AB	PO Box 47328	SE-100 74	Stockholm
Cementa AB	PO Box 33	SE-541 21	Skövde
Cerealia Foods AB		SE-153 81	Järna
Chiquita Sweden AB	Stångjärnsgatan 10	SE-753 23	Uppsala
Coca-Cola drycker Sverige AB		SE-136 87	Haninge
Coop Norden Sverige AB Logistics		SE-197 25	Bridge
Coop Sverige AB, DT Växjö	PO Box 1215	SE-351 12	Växjö
Coor Service Management	Dept. 63411 TB3	SE-405 08	Gothenburg
Copenhagen Malmö Port AB	PO Box 566	SE-201 25	Malmö
Cremo Produktions AB	PO Box 188	SE-432 24	Varberg

Danafjord Fastigheter AB		SE-405 08	Gothenburg
Danisco Sugar AB	Stationsvägen 5	SE-270 22	Köpingebro
Danisco Sugar AB	Örtofta Sockerbruk	SE-241 93	Eslöv
Danisco Sugar AB, Arlöv Sugar Refinery	PO Box 32	SE-232 21	Arlöv
Dellenbanan AB	c/o Nordins, Tingsvägen 1	SE-820 60	Delsbo
DHL Express (Sweden) AB	PO Box 206	SE-201 22	Malmö
DHL Rail AB	PO Box 57	SE-231 21	Trelleborg
DHL Solutions Sweden AB	PO Box 444	SE-551 16	Jönköping
Dila logistik AB	PO Box 162	SE-551 13	Jönköping
Domsjö Fabriker AB	Domsjö Fabriker	SE-891 86	Örnsköldsvik
Dow Sverige AB	PO Box 783	SE-601 17	Norrköping
Draka Kabel Sverige AB	Vallgatan 5	SE-571 88	Nässjö
E.ON Gas Sverige AB	PO Box 84	SE-374 22	Karlshamn
E.on Värme Sverige AB		SE-701 18	Örebro
Eka Chemicals AB		SE-445 80	Bohus
Eka Chemicals AB Albyfabrikerna	Albyfabrikerna	SE-841 44	Alby
Ekefors Skrothandel AB	Ekefors	SE-514 94	Sjötofta
Electrolux Floor Care And Light Appliances	PO Box 401	SE-542 24	Mariestad
El-Giganten Logistik AB	PO Box 577	SE-175 26	Järfälla
Elon Elkedjan Logistic AB	PO Box 22094	SE-702 31	Örebro
Ericsson Network Technologies AB	PO Box 731	SE-791 29	Falun
Ericsson Network Technologies AB		SE-824 82	Hudiksvall
Esab AB	PO Box 55	SE-284 21	Perstorp
Eskilstuna Municipality, Service Dept/Traffic Services		SE-631 86	Eskilstuna
Eslöv Municipality	Environment and town planning	SE-241 80	Eslöv
EuroMaint Rail AB	PO Box 1555	SE-171 29	Solna
Fagersta Stainless AB	PO Box 508	SE-737 25	Fagersta
Falkenberg Municipality	Town planning office	SE-311 80	Falkenberg

Falköping Municipality	Council offices	SE-521 81	Falköping
Falun Municipality	Traffic and leisure administration	SE-791 83	Falun
Fastighets AB Ångturbinen	Friledningsgatan 7	SE-721 37	Västerås
Fastighets AB, Mixtura	Knut Påls väg 8	SE-256 69	Helsingborg
Findus Sverige AB		SE-267 81	Bjuv
Fläkt Woods AB	Fläktgatan 1	SE-551 84	Jönköping
Fortum Service Industripartner AB	Transport department	SE-691 80	Karlskoga
Fortum Värme		SE-115 77	Stockholm
Fundia Armering AB	PO Box 119	SE-301 04	Halmstad
Föreningen Böda Skogsjärnväg	Fagerrörvägen 60	SE-380 75	Byxelkrok
Föreningen Gotlandståget	Hesselby railway station	SE-620 24	Dalhem
Föreningen Nynäshamns järnvägsmuseum (NJM)	Nynäsgård engine shed	SE-149 43	Nynäshamn
Förvaltnings AB Ellipsen	Västkustvägen 21	SE-211 24	Malmö
Förvaltnings AB Smålandsbanan (FAS)	c/o I Qvarnström, Storgatan 36	SE-593 33	Västervik
G E Healthcare	Björkgatan 30	SE-751 84	Uppsala
Gamla Varvet AB	Stora Varvsgatan 14	SE-211 19	Malmö
Gestamp Hardtech AB	PO Box 828	SE-971 25	Luleå
Green Cargo AB	PO Box 39	SE-171 11	Solna
Greif Sweden AB, Div. Plåtemballage	PO Box 174	SE-137 23	Västerhaninge
Grängesbergsbanornas Järnvägsmuseum (GBBJ)	PO Box 82	SE-772 22	Grängesberg
Gåsgruvan Kalcit AB	Högbergsvägen 55	SE-682 40	Filipstad
Gällö Såg AB	Öhn 160	SE-840 50	Gällö
Municipality of Gävle, Technical Office	Kyrkogatan 22	SE-801 84	Gävle
Gävle Lagerhus AB	Fredriksskans	SE-805 95	Gävle
Port of Göteborg AB	Plant/Property	SE-403 38	Gothenburg
Göteborgs spårvägar AB	PO Box 424	SE-401 26	Gothenburg
City of Gothenburg, Traffic Office	PO Box 2403	SE-403 16	Gothenburg
HA Industri Göteborg AB	Importgatan 47	SE-422 46	Hisings Backa

HA Industri Stockholm AB	PO Box 8245	SE-163 08	Spånga
HA Industri Trading AB	Indiska Oceanen	SE-418 34	Gothenburg
Hallsbergs Terminal AB	Hallsbergs Municipality	SE-694 80	Hallsberg
Halmstads Hamn och Stuveri AB	PO Box 1	SE-301 02	Halmstad
Halmstad Municipality	PO Box 153	SE-301 05	Halmstad
Haninge kommun	Technical Office	SE-136 81	Haninge
Hargs Hamn AB	Hamnen (The Port)	SE-742 50	Hargshamn
City of Helsingborg, Technical Administration	Gåsebäcksvägen 4	SE-252 27	Helsingborg
Helsingborgs Hamn AB	PO Box 821	SE-251 08	Helsingborg
Hercules AB	PO Box 622	SE-251 06	Helsingborg
Hessels Stål AB	5:e Tvärgatan 1-3	SE-802 84	Gävle
Holmen Paper AB	Braviken Paper Mill	SE-601 88	Norrköping
Holmen Paper AB	Hallsta Paper Mill	SE-763 81	Hallstavik
Hudiksvall Municipality, Technical Administration		SE-824 80	Hudiksvall
Hultsfred Municipality	PO Box 500	SE-577 26	Hultsfred
Husqvarna AB	Torsviksfabriken PO Box 502	SE-562 28	Norrahammar
Hydro Polymers AB		SE-444 83	Stenungsund
Håbo Fastighets AB	PO Box 24	SE-746 21	Bålsta
Härjedalen Municipality, Technical Administration	Civic Centre	SE-842 80	Sveg
Härnösand Municipality	Port of Härnösand	SE-871 80	Härnösand
Hässleholm Municipality, Technical Office	Kringelvägen 42	SE-281 41	Hässleholm
Hässleholms Lokstall	Kraftgatan 6	SE-234 31	Lomma
ICA Fastighets AB	Stensborgsgatan 4	SE-721 84	Västerås
ICA Fastighets AB	Sjöhagsvägen 3	SE-721 84	Västerås
ICA Fastighets AB	PO Box 263	SE-651 07	Karlstad
ICA Handlarna AB	PO Box 1223	SE-901 22	Umeå
Iggesunds Bruk	Holmen	SE-825 80	Iggesund
IKEA AB Förvaltning	PO Box 700	SE-343 81	Älmhult

IKEA AB Förvaltning	PO Box 640	SE-251 06	Helsingborg
IKEA Fastigheter AB	PO Box 700	SE-343 81	Älmhult
IKEA Fastigheter AB	PO Box 640	SE-251 06	Helsingborg
IL Recycling Returpapper AB	PO Box 5388	SE-102 49	Stockholm
Imerys Mineral AB	Ekonomivägen 3-5	SE-436 33	Askim
Industrial Quality Recycling AB (IQR)	Stallbackavägen 26	SE-461 38	Trollhättan
Industrispår i Ystad AB	Dragongatan 51	SE-271 39	Ystad
Inlandsbanan AB (IBAB)	PO Box 561	SE-831 27	Östersund
Interfleet Technology	PO Box 35	SE-171 11	Solna
ISS TraffiCare AB	PO Box 905	SE-170 09	Solna
Itab Fastigheter i Nässjö AB	PO Box 9054	SE-550 09	Jönköping
Jernhusen Verkstäder AB	PO Box 703	SE-851 21	Sundsvall
Jämtlands läns museum	PO Box 709	SE-831 28	Östersund
Järnmalmer AB	PO Box 2079	SE-403 12	Gothenburg
Järnvägssällskapet Åmål-Årjängs Järnvägs (JÅÅJ)	Stenbecksgatan 10	SE-662 32	Åmål
Jästbolaget AB	PO Box 7003	SE-192 07	Sollentuna
Jönköping Municipality	Juneporten	SE-551 89	Jönköping
Kalix Municipality	Nygatan 4	SE-952 81	Kalix
Kalmar Hamn AB	PO Box 810	SE-391 28	Kalmar
Kalmar Municipality, Highways and Parks Office	PO Box 611	SE-391 26	Kalmar
Kalmar Veterantåg (KV)	PO Box 331	SE-391 23	Kalmar
Kamewa AB, södra verken	PO Box 1010	SE-681 29	Kristinehamn
Kappa Förenade Well	PO Box 4036	SE-800 04	Gävle
Kappa Förenade Well	PO Box 1104	SE-241 26	Eslöv
Karl Ljungberg & CO AB	PO Box 2014	SE-281 02	Hässleholm
Karlshamn Kraft AB	PO Box 65	SE-374 21	Karlshamn
Karlshamns hamn AB	PO Box 8	SE-374 21	Karlshamn
Karlshamn Municipality	Tubbarydsvägen 6	SE-374 81	Karlshamn

Karlskrona Municipality, Technical Administration	Ö. Hamngatan 7 B	SE-371 83	Karlskrona
Karlstad Municipality, Technical Services and Property Management Administration	Drottninggatan 32	SE-651 84	Karlstad
Kemetyl AB	PO Box 533	SE-136 25	Haninge
Kemira Kemi AB	PO Box 902	SE-251 09	Helsingborg
KF Avtalsfastigheter	c/o KF Fastigheter, PO Box 15200	SE-104 65	Stockholm
KF Dagligvaruterminal Umeå	PO Box 3015	SE-903 02	Umeå
KGK Fastighet Lunda AB		SE-191 81	Sollentuna
Kils kommun, Technical Administration	PO Box 88	SE-665 23	Wedge
Klippans Municipality		SE-264 80	Klippan
Konstruktionssvets AB	PO Box 161	SE-444 22	Stenungsund
Konsum Värmland, regional warehouse	Timmergatan 4	SE-651 15	Karlstad
Korsnäs AB	Korsnäs Produktion Gävle	SE-801 81	Gävle
Korsnäs Frövi AB		SE-718 80	Frövi
Kraft Foods Sverige AB, Gevalia roastery	PO Box 615	SE-801 26	Gävle
Kristianstad Municipality, Land and Exploitation Office	V. Boulevarden 13	SE-291 32	Kristianstad
Kristinehamn Municipality, Technical Administration	Technical Administration	SE-681 84	Kristinehamn
Krokom Municipality		SE-835 80	Krokom
Kubikenborg Alminium AB (Kubal)		SE-851 76	Sundsvall
Kumla Municipality		SE-692 80	Kumla
Kundvagnen Fastigheter Grön AB	PO Box 809	SE-781 28	Borlänge
Kungsleden Fastighets AB	PO Box 112 84	SE-404 26	Gothenburg
Kuusakoski Sverige AB	Svedjevägen 6	SE-931 36	Skellefteå
Kuusakoski Sverige AB	Cementvägen 3	SE-973 45	Luleå
Köping Municipality, Technical Office	Köping	SE-731 85	Köping
Landskrona Municipality	Technical Services	SE-261 80	Landskrona
Landskrona Varvet AB	PO Box 746 - Varvsudden	SE-261 27	Landskrona
Lantmännen Mills AB	PO Box 100	SE-595 21	Mjölby

Lantmännen Mills AB	PO Box 446	SE-751 06	Uppsala
Latexia Sverige AB	PO Box 605	SE-421 26	V. Frölunda
LignoTech Sweden AB	Wargöns Bruk	SE-468 82	Vargön
Lilla Edet Municipality	Göteborgsvägen 55	SE-463 80	Lilla Edet
Lindbergs i Forsbacka AB	PO Box 5171	SE-102 44	Stockholm
Lindbergs i Södertälje AB	PO Box 5171	SE-102 44	Stockholm
Ljungafors fastigheter AB	Industriområde 2	SE-840 10	Ljungaverk
LKAB, Produktion/Järnväg	PO Box 821	SE-971 25	Luleå
Lucchini Sweden AB	PO Box 210	SE-735 23	Surahammar
Port of Luleå	Strömörvägen 9	SE-974 37	Luleå
Luleå Municipality, Land and Exploitation Department		SE-971 85	Luleå
Lundstam Åkeri & Återvinning AB	PO Box 5003	SE-831 05	Östersund
Lycksele Municipality	PO Box 505	SE-921 81	Lycksele
Lysekils Hamn ny	Port Office	SE-453 80	Lysekil
Löfbergs Lila Fastigheter AB	PO Box 1501	SE-651 21	Karlstad
M2 Fastigheter Hamn-City AB	Garnisonsgatan 25	SE-254 66	Helsingborg
Malmbanans vänner	Arcusvägen 95	SE-975 94	Luleå
Malmtrafik i Kiruna AB (MTAB)	LKAB FK	SE-981 86	Kiruna
City of Malmö, Property Office	Augusts Palms plats 1	SE-205 80	Malmö
City of Malmö, Highways Office		SE-205 80	Malmö
Malmö-Limhamns Järnvägs AB	PO Box 30022	SE-200 61	Limhamn
Map Sverige AB	PO Box 553	SE-136 25	Haninge
Marieholms järnvägsspår ekonomiska förening	c/o Borlind, Bergsén &CO AB	SE-415 02	Gothenburg
MEFOS - Metallurgical Research Institute AB	PO Box 812	SE-971 25	Luleå
Metsä Tissue AB	Pauliström	SE-570 19	Pauliström
Metsä Tissue AB	Katrinefors Mill	SE-542 88	Mariestad
Midwaggon AB	Bultgatan 1	SE-841 31	Ånge
Mindab Assidomän, Bergslagens Trä AB	Timmervägen 1	SE-774 68	Horndal

Mjölby Municipality, Technical Office	Town Hall	SE-595 80	Mjölby
Moelven Valåsen AB	PO Box 404	SE-691 27	Karlskoga
Moelven Värmlands Trä AB	PO Box 136	SE-661 23	Säffle
Mondi Packaging Dynäs AB		SE-873 81	Väja
Mondi Packaging Örebro AB	PO Box 926	SE-701 30	Örebro
Mora Municipality		SE-792 80	Mora
Motorn Tre Fastighetsförvaltning AB	Annebergsvägen 3	SE-645 41	Strängnäs
Museiföreningen Anten-Gräfsnäs Järnväg (AGJ)	PO Box 300	SE-441 26	Alingsås
Museiföreningen Gefle-Dala jernväg (MfGDJ)	Centralplan	SE-791 31	Falun
Museiföreningen Munkedals Jernväg	Östra Åtorpsvägen 18	SE-455 31	Munkedal
Museiföreningen Stockholm-Roslagens Järnvägar ULJ	PO Box 3076	SE-750 03	Uppsala
Museiföreningen Wadstena Fogelsta Järnväg	Railway station	SE-592 30	Vadstena
Museiföreningen Östra Skånes Järnvägar (mfÖSJ)	V.Storgatan 89	SE-291 54	Kristianstad
Museiföreningen Östra Södermanlands Järnväg (ÖSlJ)	PO Box 53	SE-647 22	Mariefred
Museisällskapet Jädraås-Tallås Järnväg (JTJ)	Jädraås station	SE-816 91	Jädraås
Mälarenergi AB	PO Box 14	SE-721 03	Västerås
Mälarhamnar AB	Seglargatan 3	SE-721 32	Västerås
Möbeldirekten AB	Lagervägen 1	SE-136 50	Haningen
Mönsterås Municipality, Technical Office	PO Box 54	SE-383 22	Mönsterås
Naturbränsle i mellansverige AB	PO Box 1931	SE-791 19	Falun
Nerikes Allehanda		SE-701 92	Örebro
Neste LPG AB	Ortviksvägen 4	SE-856 33	Sundsvall
Nilsson Group AB	PO Box 508	SE-432 19	Varberg
Nora Bergslags Veteranjernväg (NBVJ)	PO Box 52	SE-713 22	Nora
Nordic Paper Seffle AB	PO Box 61	SE-661 29	Säffle
Nordisk Carbon Black AB	Kusthamnsgatan 1	SE-211 24	Malmö
Nordkalk AB	PO Box 901	SE-731 29	Köping
Norrköping Municipality	Technical Committees	SE-601 81	Norrköping

Norrlandspojkarna Fastighet AB	Heffnersvägen 1	SE-856 33	Sundsvall
Norrskog Wood Products AB	PO Box 213	SE-831 23	Östersund
Norske Skog Jämtland AB	PO Box 106	SE-830 47	Trångsviken
Notvikens Fastighet AB	Timotejstigen 9	SE-954 35	Gammelstad
Nybro Municipality, Technical Office	Dunderbergsgatan 2	SE-382 80	Nybro
Nässjö Railway Museum	c/o E Svensson, Sandsjöväg	SE-571 61	Bodafors
Nässjö Municipality		SE-571 80	Nässjö
Ohs bruks järnvägs museiförening (OBJ)	PO Box 179	SE-351 04	Växjö
OMYA AB	Kalendegatan 18	SE-211 35	Malmö
Osby Municipality	Highways Office	SE-283 80	Osby
Oscarson Skog AB	Stampuddsvägen 7	SE-863 33	Sundsbruk
Oskarshamns Hamn AB	N Strandgatan 50	SE-572 32	Oskarshamn
Osram Aktiebolag	PO Box 504	SE-136 25	Haninge
Outokumpu Stainless AB		SE-644 80	Torshälla
Outokumpu Stainless AB	PO Box 74	SE-774 22	Avesta
Outokumpu Stainless AB		SE-693 81	Degerfors
Ovako Bar AB		SE-777 80	Smedjebacken
Ovako Bar AB	PO Box 5	SE-590 10	Boxholm
Ovako Forsbacka AB	PO Box 100	SE-818 03	Forsbacka
Ovako Steel AB	PO Box 77	SE-712 80	Hällefors
Ovako Steel AB		SE-813 82	Hofors
Oxelösunds Hamn AB	PO Box 1200	SE-613 24	Oxelösund
Pacwire AB		SE-860 35	Söråker
Pergo (Europe) AB	PO Box 1010	SE-231 25	Trelleborg
Perstorp Fastighets AB		SE-284 80	Perstorp
Perstorp Municipality		SE-284 84	Perstorp
Piteå Municipality	Öjagatan 95	SE-943 31	Öjebyn
Posten Sverige AB	Produktion Brevnätet	SE-105 00	Stockholm

Preem Raffinaderi AB		SE-418 34	Gothenburg
Procordia Food AB		SE-241 81	Eslöv
Procordia Food AB	Viagatan 17	SE-692 82	Kumla
Procordia Food AB	Åbyvägen 11	SE-701 31	Örebro
Ramnäs Bruk AB	PO Box 14	SE-730 60	Ramnäs
Rexam Beverage Fosie AB	PO Box 9016	SE-200 39	Malmö
Rockhammars Bruk AB		SE-718 81	Frövi
Rohm and Haas Nordiska AB	PO Box 45	SE-261 22	Landskrona
Rottneros Bruk AB	Rottneros Bruk	SE-686 94	Rottneros
Ruukki Sverige AB, Virsbo	PO Box 100	SE-730 61	Virsbo
SAAB AB, Saab Support	PO Box 360	SE-831 25	Östersund
Saab Automobile AB		SE-461 80	Trollhättan
Saint Gobain Isover AB	PO Box 501	SE-260 50	Billesholm
Sandviken Energi AB	Gävlevägen 96	SE-811 40	Sandviken
SAPA Industriservice AB		SE-621 81	Finspång
Sapa Profiler AB	Box	SE-574 81	Vetlanda
SCA Graphic Sundsvall AB	Östrand Pulp Mill	SE-861 81	Timrå
SCA Hygiene Paper AB, Edet Mill		SE-463 81	Lilla Edet
SCA Hygiene Products AB	PO Box 243	SE-311 23	Falkenberg
SCA Packaging Munksund AB		SE-941 87	Piteå
SCA Packaging Sweden AB	PO Box 504	SE-331 25	Värnamo
SCA Packaging Sweden AB	PO Box 241	SE-542 23	Mariestad
SCA Skog AB Virke Nord	PO Box 783	SE-941 28	Piteå
SCA Skog AB		SE-851 88	Sundsvall
SCA Timber AB	PO Box 100	SE-873 80	Bollstabruk
SCA Timber AB	PO Box 783	SE-941 28	Piteå
Scana Steel Björneborg AB	Kristinehamnsvägen 1	SE-680 71	Björneborg
Scandinavian Distripoint AB	c/o Port of Göteborg AB	SE-403 38	Gothenburg

ScanDust AB	PO Box 204	SE-261 23	Landskrona
Scania CV AB		SE-151 87	Södertälje
ScanPole Sverige AB	Åsavägen 10	SE-690 45	Åsbro
Schenker Logistics AB		SE-551 90	Jönköping
Shell Raffinaderi AB	PO Box 8889	SE-402 72	Gothenburg
Siemens industrial Turbomachinery AB		SE-612 83	Finspång
Siljan Timber AB	PO Box 435	SE-792 27	Mora-Noret
SJ PP AO SL Pendeltrafik		SE-105 50	Stockholm
Skanska Sverige AB	Div Asfalt & Betong avd Syd	SE-380 30	Rockneby
Skara-Lundsbrunns järnvägar (SkLJ)	Tullportagatan 1	SE-532 30	Skara
Skellefteå Municipality, Technical Office	Skeppargatan 16	SE-931 85	Skellefteå
Skellefteå Lastbilsstation	Hallvägen 8	SE-931 36	Skellefteå
SKF Sverige AB	Property Administration	SE-415 50	Gothenburg
Skrotfrag	Ö Nyebrovägen	SE-424 38	Angered
Skånska Järnvägar AB	Brösarps stationsväg 3	SE-277 55	Brösarp
Skånska Makadam AB	Vramsvägen 1	SE-265 32	Åstorp
Smalspåret i Hultsfred AB	c/o Callvik, Kästadalsvägen 14	SE-141 59	Huddinge
Smurfit Lagamill AB	PO Box 43	SE-285 93	Markaryd
Smurfit Kappa Kraftliner Piteå		SE-941 86	Piteå
Smurfit Kappa Mittpac AB	PO Box 76	SE-840 60	Bräcke
Smurfit Packaging AB	PO Box 693	SE-601 15	Norrköping
SSAB Oxelösund AB		SE-613 80	Oxelösund
SSAB Tunnplåt AB		SE-781 84	Borlänge
SSAB Tunnplåt AB Ämnen Luleå		SE-971 88	Luleå
Stena Aluminium AB	PO Box 44	SE-343 21	Älmhult
Stena Recycling AB	Allevägen 1	SE-291 62	Kristianstad
Stena Recycling AB	PO Box 137	SE-631 03	Eskilstuna
Stena Recycling AB	PO Box 39	SE-860 30	Sörberge

Stena Recycling AB	Spårvägen 16	SE-901 31	Umeå
Stena Recycling AB	PO Box 1009	SE-301 10	Halmstad
Stena Recycling AB	PO Box 4088	SE-400 40	Gothenburg
Stena Recycling AB	Kungsgatan 81	SE-632 21	Eskilstuna
Stena Recycling AB	PO Box 145	SE-631 03	Eskilstuna
Stena Recycling AB	PO Box 4088	SE-400 40	Gothenburg
Stena Stål AB	Kvekatorpsvägen 31	SE-311 32	Falkenberg
Stena Stål AB	Skeppsgatan 1	SE-721 32	Västerås
Stena Stål Nybro AB	PO Box 827	SE-382 28	Nybro
Stensele Såg i Storuman AB	Gamla Vilhelminavägen 2	SE-923 21	Stensele
Stiftelsen Dal-Västra Värmlands Järnväg (DVVJ)	PO Box 14	SE-666 21	Bengtsfors
Stockholms hamn AB	PO Box 27314	SE-102 54	Stockholm
Stockholms kultursällskap för ånga och järnväg	PO Box 35	SE-191 21	Sollentuna
City of Stockholm, Highways and Property Office	PO Box 8311	SE-104 20	Stockholm
Stora Enso Fors AB		SE-774 89	Fors
Stora Enso Hylte AB	F.A.O.: Anders Magnusson	SE-314 81	Hyltebruk
Stora Enso Kvarnsveden AB		SE-781 83	Borlänge
Stora Enso Nymölla AB	Nymölla Mill	SE-295 80	Nymölla
Stora Enso Pulp	PO Box 4	SE-817 21	Norrsundet
Stora Enso Pulp AB		SE-814 81	Skutsär
Stora Enso Skoghall AB	PO Box 501	SE-663 29	Skoghall
Stora Enso Timber AB	PO Box 502	SE-820 20	Ljusne
Stora Enso Timber AB, Gruvön Sawmill	Timmervägen 2	SE-664 33	Grums
Structo AB	PO Box 1003	SE-688 29	Storfors
Strömfund Municipality	PO Box 500	SE-833 24	Strömfund
STT Svensk Tågteknik AB	Gölgatan 8A	SE-571 34	Nässjö
Sundsvalls Hamn AB	PO Box 805	SE-85123	Sundsvall
Sundsvall Municipality	Highways and Land Department	SE-851 85	Sundsvall

Surahammars Bruk AB	PO Box 201	SE-735 23	Surahammar
Swedish Match Distribution AB, Solna		SE-171 89	Solna
Swedspan AB	PO Box 502	SE-577 26	Hultsfred
Swedwire AB	PO Box 170	SE-432 24	Varberg
SweMaint AB	Utbyvägen 151	SE-415 07	Gothenburg
Svenska Lantmännen Ek. för.	PO Box 905	SE-601 19	Norrköping
Svenska Lantmännen Ek. för.	PO Box 1743	SE-701 17	Örebro
Svenska Lantmännen Ek. för.		SE-311 83	Falkenberg
Svenska Statoil AB Gasoll/LPG	Torkel Knutssons gata 24	SE-118 88	Stockholm
SWT Swedtrac Sverige AB	PO Box 7092	SE-170 07	Solna
Sydkraft Sakab	PO Box 904	SE-692 85	Kumla
Sydskånes Avfallsaktiebolag	PO Box 50344	SE-202 13	Malmö
Sydåtervinning AB	Sturkögatan 2	SE-211 24	Malmö
SÅBI Pellets AB	Götafors industrial estate.	SE-567 92	Vaggeryd
Sågverkens Trädprodukter AB	Storsjöstråket 15	SE-831 34	Östersund
Säffle Municipality		SE-661 80	Säffle
Sällskapet Ostkustbanans Vänner (OKBv)	PO Box 458	SE-851 06	Sundsvall
Söderhamns Stuveri & Hamn AB	PO Box 5082	SE-826 05	Söderhamn
Södertälje Hamn AB	PO Box 2016	SE-151 02	Södertälje
Södertälje Municipality	Town Planning Office	SE-151 89	Södertälje
Södra Cell		SE-383 25	Mönsterås
Södra Cell AB	Mörrum Mill	SE-375 86	Mörrum
Södra Cell Värö	Värö Mill	SE-430 24	Väröbacka
Sölvesborgs Stuveri & Hamn AB	Yttershamnen	SE-294 35	Sölvesborg
Tankmobil AB	PO Box 54	SE-271 22	Ystad
Tarkett AB		SE-289 89	Hanaskog
Terminal West AB	PO Box 18	SE-432 21	Varberg
Terramet Stålcenter AB	PO Box 45	SE-551 12	Jönköping

Tetra pak Business Support AB	Ruben Rausings Gata	SE-221 86	Lund
Tetra Pak Packaging Material AB	PO Box 502	SE-686 28	Sunne
TGOJ trafik AB	Gredbyvägen 3-5	SE-632 21	Eskilstuna
Thule Trailers AB	Industrigatan 16	SE-553 02	Jönköping
Tibnor AB	PO Box 909	SE-731 29	Köping
Tibnor AB	PO Box 4260	SE-102 66	Stockholm
Tibnor AB Stockholm	PO Box 4260	SE-102 66	Stockholm
Tibnor Sundsvall AB	PO Box 770	SE-851 22	Sundsvall
Timrå Municipality	Culture and Technical Services	SE-861 82	Timrå
Tjärnviks Trä AB	Gryttje 1372	SE-820 77	Gnarp
Transportstaden Örebro AB c/o Brinnova Fastigheter	Verkstadsgatan 13	SE-252 27	Helsingborg
Trelleborgs Hamn AB	PO Box 51	SE-231 21	Trelleborg
Tågåkeriet i Bergslagen AB (TÅGAB)	Bangårdsgatan 2	SE-681 30	Kristinehamn
Uddevalla Hamnterminal AB	PO Box 543	SE-451 21	Uddevalla
Umeå Hamn AB	Port of Umeå	SE-913 32	Holmsund
Umeå Municipality, Town Planning Office		SE-901 84	Umeå
Unilever Bestfoods AB	PO Box 156	SE-751 04	Uppsala
Unilever Bestfoods AB/Slotts	PO Box 156	SE-751 04	Uppsala
Univar AB	PO Box 4072	SE-203 11	Malmö
Uppsala Municipality, Highways and Traffic Office	Kungsängsgatan 27	SE-753 75	Uppsala
Ursvikens Mekaniska Verkstads AB	Mekanvägen 71	SE-932 82	Ursviken
Waggeryd Cell AB	PO Box 7	SE-567 21	Vaggeryd
Vallviks Bruk AB		SE-820 21	Vallvik
Varberg Municipality		SE-432 80	Varberg
Wasabröd AB		SE-682 82	Filipstad
Vattenfall AB Värme Norden	PO Box 600	SE-753 82	Uppsala
Vattenfall Eldistribution AB		SE-191 97	Sollentuna
Vectus LTD	Kronåsvägen 14	SE-752 37	Uppsala

Vetlanda Municipality, Technical Office		SE-574 80	Vetlanda
Vida Alvesta AB/Tongen 17	PO Box 100	SE-342 21	Alvesta
Vida Hestra AB	PO Box 119	SE-330 27	Hestra
Vilhelmina Municipality		SE-912 81	Vilhelmina
Volvo Cars Body Components AB		SE-293 80	Olofström
Volvo Powertrain Corporation	Volvo Division, Facility Services	SE-541 87	Skövde
Volvo Wheel Loaders AB	PO Box 303	SE-671 83	Arvika
Vopak Logistics Nordic AB	Brännoljegatan, Skarvikshamnen	SE-418 34	Gothenburg
Vopak Logistics Nordic AB	Brännoljegatan 12	SE-418 34	Gothenburg
Vossloh Nordic Switch System AB	PO Box 1512	SE-271 00	Ystad
V-tab AB	Exportgatan 2-4	SE-442 46	Hisings-Backa
V-tab Västerås AB	PO Box 873	SE-721 23	Västerås
Vänerhamn AB	Stuvargatan 1	SE-652 21	Karlstad
Värnamo Municipality	Technical Office	SE-331 83	Värnamo
Västerberslagens Värme AB	PO Box 860	SE-771 28	Ludvika
Västerbottens-Kuriren AB		SE-901 70	Umeå
Västervik Municipality	Kristinebergsgatan 20	SE-593 80	Västervik
City of Västerås, Property Office	Town Hall	SE-721 87	Västerås
Yara AB	PO Box 908	SE-731 29	Köping
Yara AB	PO Box 516	SE-261 24	Landskrona
Yara AB	Kommendantvägen	SE-602 38	Norrköping
Ystad Hamn Logistik AB	Hamntorget 2	SE-271 39	Ystad
Ystad Municipality, Town Planning	Town Planning Office	SE-271 80	Ystad
Zamia Fastighets AB/ Norrvidden Fastigheter AB	PO Box 179	SE-851 03	Sundsvall
Åhus Hamn & Stuveri AB	Krangatan 2	SE-296 32	Åhus
Åkers Sweden AB		SE-640 60	Åkers styckebruk
Åre Municipality, Technical Department	PO Box 201	SE-830 05	Järpen
Älmhult Municipality	PO Box 500	SE-343 23	Älmhult

Älmhults Terminal AB	PO Box 500	SE-343 23	Älmhult
Älvsbyn Municipality	Storgatan	SE-942 85	Älvsbyn
Ättehögen Ö:a 3 KB	PO Box 150 13	SE-250 15	Helsingborg
Örebro Municipality, Technical Administration	PO Box 33 300	SE-701 35	Örebro
Öresundsbrokonsortiet	Vester Sögade 10	DK-1601	Copenhagen
Östersund Municipality	Committee Office	SE-831 82	Östersund

Annex A.2.2: List of active railway undertakings in 2007

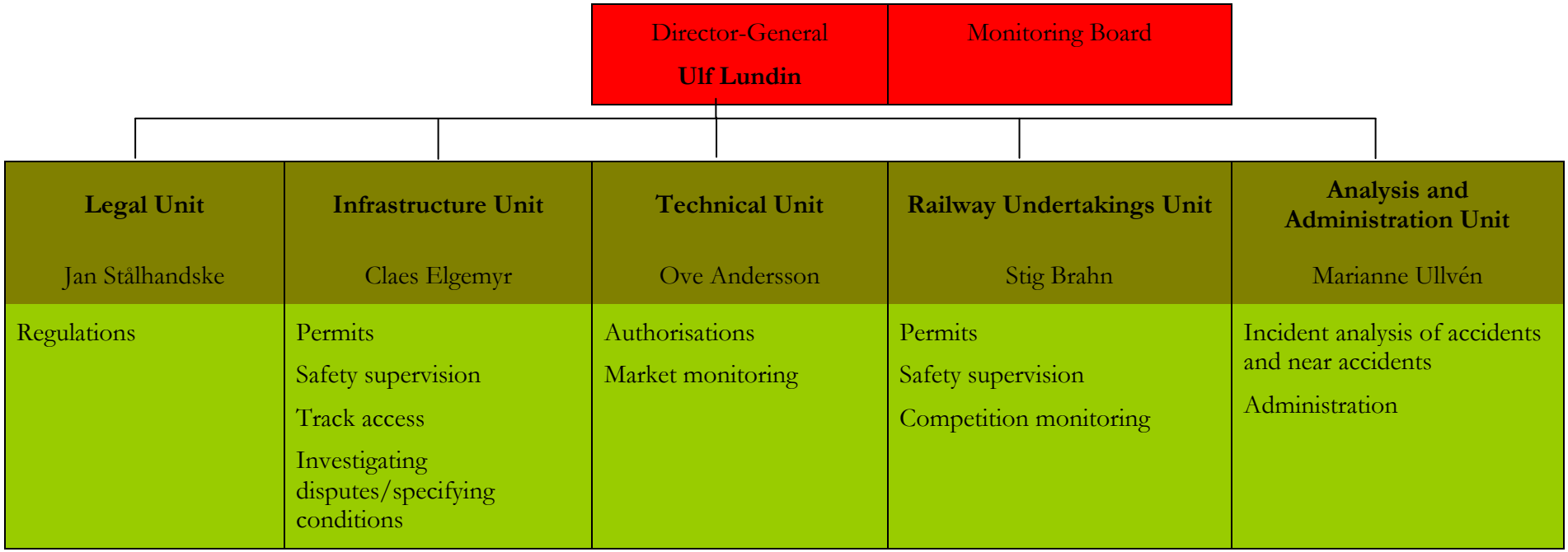
Name	Address	Postcode	Town/City
AB Motala Verkstad	PO Box 950	SE-591 29	Motala
AB Sandvik Materials Technology		SE-811 81	Sandviken
AB SkandiaTransport	PO Box 50	SE-261 22	Landskrona
ABetong Precon AB	Hästhagen	SE-340 30	Vislanda
Alstom Transport AB	Gamla Brogatan 34	SE-111 20	Stockholm
Ardagh Glass Limmared AB		SE-514 83	Limmared
Arriva Tåg AB	PO Box 38	SE-201 20	Malmö
Arvidsjaurs Järnvägsförening	Basvägen 7	SE-933 34	Arvidsjaur
A-Train AB (Arlanda Express)	PO Box 130	SE-101 22	Stockholm
Axel Bergkvist AB	PO Box 401	SE-793 13	Insjön
Balfour Beatty Rail AB	PO Box 413	SE-721 08	Västerås
Baneservice AS Norge Filial	Skårs Led 3	SE-412 63	Gothenburg
Bantåg Nordic AB	PO Box 34	SE-932 21	Skelleftehamn
Swedish National Rail Administration		SE-781 85	Borlänge
Swedish National Rail Administration Production		SE-781 85	Borlänge
Bergslagernas Järnvägssällskap (BJs)	Bergslags-Lärje	SE-415 02	Gothenburg
Billerud AB Gruvöns Bruk	PO Box 500	SE-664 28	Grums
Billerud Skärblacka AB	Skärblacka Mill	SE-617 10	Skärblacka
Boliden Mineral AB, Rönnskär Smelter	Rönnskär Smelter	SE-932 81	Skelleftehamn
Bombardier Transportation Sweden AB		SE-721 73	Västerås
CargoNet AB	Sjöviksbacken 26	SE-117 43	Stockholm
CargoNet AS	Platous gt. 14-16	NO-0048	Oslo
Danisco Sugar AB, Arlöv Sugar Refinery	PO Box 32	SE-232 21	Arlöv
Dellenbanan AB	c/o Nordins, Tingsvägen 1	SE-820 60	Delsbo
Dow Sverige AB	PO Box 783	SE-601 17	Norrköping
Engelsberg-Norbergs Järnvägshistoriska förening	Engelbrektsgatan 73	SE-738 31	Norberg

EuroMaint Rail AB	PO Box 1555	SE-171 29	Solna
Föreningen Böda Skogsjärnväg	Fagerrörvägen 60	SE-380 75	Byxelkrok
Föreningen Gotlandståget	Hesselby railway station	SE-620 24	Dalhem
Föreningen Nynäshamns järnvägsmuseum (NJM)	Nynäsgård engine shed	SE-149 43	Nynäshamn
Green Cargo AB	PO Box 39	SE-171 11	Solna
Grängesbergsbanornas Järnvägsmuseum (GBBJ)	PO Box 82	SE-772 22	Grängesberg
Hector Rail AB	Svärdvägen 13	SE-182 33	Danderyd
Holmen Paper AB		SE-763 81	Hallstavik
Industrial Quality Recycling AB (IQR)	Stallbackavägen 26	SE-461 38	Trollhättan
Inlandsbanan AB (IBAB)	PO Box 561	SE-831 27	Östersund
Interfleet Technology	PO Box 35	SE-171 11	Solna
ISS TraffiCare AB	PO Box 905	SE-170 09	Solna
Järnvägssällskapet Åmål-Årjängs Järnvägs (JÅÅJ)	Stenbecksgatan 10	SE-662 32	Åmål
Kalmar Veterantåg (KV)	PO Box 331	SE-391 23	Kalmar
Kockums Industrier AB	Stora Varvsgatan 14	SE-211 19	Malmö
Korsnäs AB		SE-801 81	Gävle
Korsnäs Frövi AB		SE-718 80	Frövi
Landeryds Järnvägsmuseum	PO Box 103	SE-314 04	Landeryd
Line CNM AB	Miraallén 2	SE-417 58	Gothenburg
Malmbanans vänner	Arcusvägen 95	SE-975 94	Luleå
Malmtrafik i Kiruna AB (MTAB)	LKAB FK	SE-981 86	Kiruna
Malmö-Limhamns Järnvägs AB	PO Box 30022	SE-200 61	Limhamn
Midwaggon AB	Bultgatan 1	SE-841 31	Ånge
Museiföreningen Anten-Gräfsnäs Järnväg (AGJ)	PO Box 300	SE-441 26	Alingsås
Museiföreningen Gefle-Dala jernväg (MfGDJ)	Centralplan	SE-791 31	Falun
Museiföreningen Munkedals Jernväg	Östra Åtorpsvägen 18	SE-455 31	Munkedal
Museiföreningen Stockholm-Roslagens Järnvägar ULJ	PO Box 3076	SE-750 03	Uppsala
Museiföreningen Wadstena Fogelsta Järnväg	Railway station	SE-592 30	Vadstena

Museiföreningen Östra Södermanlands Järnväg (ÖSlJ)	PO Box 53	SE-647 22	Mariefred
Museisällskapet Jädraås-Tallås Järnväg (JTJ)	Jädraås station	SE-816 91	Jädraås
NBA Energi & Miljöutveckling AB	Box 743	SE-941 28	Piteå
Nora Bergslags Veteranjernväg (NBVJ)	PO Box 52	SE-713 22	Nora
Nordic Haulage AB (NOHAB)	Fredsgatan 3B	SE-652 25	Karlstad
Nordic Paper Seffle AB	PO Box 61	SE-661 29	Säffle
Nordkalk AB	PO Box 901	SE-731 29	Köping
Nässjö Railway Museum	c/o E Svensson, Sandsjöväg	SE-571 61	Bodafors
Ofotbanen AS	PO Box 333	NO-8505	Narvik
Ohs bruks järnvägs museiförening (OBJ)	PO Box 179	SE-351 04	Växjö
Ovako Bar AB		SE-777 80	Smedjebacken
Peterson Rail AB	PO Box 6008	SE-40060	Gothenburg
Railion Danmark A/S	Spotorno Allé 12	SE-2630	Tåstrup
Roslagståg AB	PO Box 5829	SE-102 48	Stockholm
Ruukki Sverige AB, Virsbo	PO Box 100	SE-730 61	Virsbo
Sandviken Energi AB	Gävlevägen 96	SE-811 40	Sandviken
SCA Hygiene Paper AB, Edet Mill		SE-463 81	Lilla Edet
ScanPole Sverige AB	Åsavägen 10	SE-690 45	Åsbro
Shell Raffinaderi AB	PO Box 8889	SE-402 72	Gothenburg
SJ AB		SE-105 50	Stockholm
Skara-Lundsbrunns järnvägar (SkLJ)	Tullportagatan 1	SE-532 30	Skara
Skånska Järnvägar AB	Brösarps stationsväg 3	SE-277 55	Brösarp
Smalspåret i Hultsfred AB	c/o Callvik, Kästadalsvägen 14	SE-141 59	Huddinge
Spark Trade AB	PO Box 40	SE-571 21	Nässjö
SSAB Oxelösund AB		SE-613 80	Oxelösund
SSAB Tunnplåt AB		SE-781 84	Borlänge
SSAB Tunnplåt AB		SE-971 88	Luleå
Stena Recycling AB	PO Box 4088	SE-400 40	Gothenburg

Stiftelsen Dal-Västra Värmlands Järnväg (DVVJ)	PO Box 14	SE-666 21	Bengtsfors
Stockholms kultursällskap för ånga och järnväg	PO Box 35	SE-191 21	Sollentuna
Stockholms ånglokssällskap (SÅS)	Vretensborgsv 13 B	SE-126 30	Hägersten
Stockholmståg KB	PO Box 505	SE-101 30	Stockholm
Stora Enso Nymölla AB	Nymölla Mill	SE-295 80	Nymölla
Stora Enso Skoghall AB	PO Box 501	SE-663 29	Skoghall
Strukton Rail AB	Uddvägen 7	SE-131 34	Nacka
STT Svensk Tågteknik AB	Gölgatan 8A	SE-571 34	Nässjö
Surahammars Bruk AB	PO Box 201	SE-735 23	Surahammar
SweMaint AB	Utbyvägen 151	SE-415 07	Gothenburg
Svenska Motorvagnsklubben (SMoK)	Spårvägen 1	SE-521 32	Falköping
Svenska Statoil AB Gasol/LPG	Torkel Knutssons gata 24	SE-118 88	Stockholm
Svenska Tågkompaniet AB	F.A.O.: Gunnar Frisk Centralplan 3	SE-803 11	Gävle
SWT Swedtrac Sverige AB	PO Box 7092	SE-170 07	Solna
Sällskapet Ostkustbanans Vänner (OKBv)	PO Box 458	SE-851 06	Sundsvall
TGOJ trafik AB	Gredbyvägen 3-5	SE-632 21	Eskilstuna
Tjustbygdens järnvägsförening (TJF)	PO Box 173	SE-593 23	Västervik
Trafikföreningen Veterantåg i Övre Norrland (VTÖN)	Arcusvägen 95	SE-975 94	Luleå
TX Logistik AB	Grimsbygatan 14	SE-211 20	Malmö
Tågfrakt Produktion i Sverige AB	Spårvägen 1	SE-521 32	Falköping
Tågia AB	PO Box 107 17	SE-121 29	Stockholm
Tågåkeriet i Bergslagen AB (TÅGAB)	Bangårdsgatan 2	SE-681 30	Kristinehamn
Veolia Transport Sverige AB	PO Box 1820	SE-171 24	Solna
Volvo Logistics AB	Dept. 7550 TÅ	SE-405 08	Gothenburg
Vossloh Nordic Switch System AB	PO Box 1512	SE-271 00	Ystad
Värmlandståg	Karlslundsvägen 4A, Liljdhl	SE-660 40	Segmon
Yara AB	PO Box 908	SE-731 29	Köping
Åkers Sweden AB		SE-640 60	Åkers kbk

Annex B The Swedish Rail Agency's organisation chart for 2007



A more up-to-date version of the organisation chart can be found at the Swedish Rail Agency's home page: www.jvs.se

Annex C. Statistical data, common safety indicators (CSIs)

The table below shows the actual values reported for 2007.

Back translation of a Swedish translation of an ERA form for data on common safety indicators (CSIs)

Field no	Data code	Data description	Data format	Data	Def.
0. Details on reporting country					
01	CC	Reporting country	Format: ISO standard with two letters in accordance with ISO 3166 alpha-2.	SE	
02	YY	Information concerning year	Format: YYYY, four digits	2007	
1.1a. Number of accidents, total and broken down by accident categories					
1	N00	Total number of accidents	Numerical value	56	1.
2	N01	Number of train collisions including train impact with objects within the clearance gauge	Numerical value	1	1.
3	N02	Number of train derailments	Numerical value	11	1.
4	N03	Number of level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	14	1.
5	N04	Number of accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	20	1.
6	N05	Number of fires in rolling stock	Numerical value	4	1.
7	N06	Number of other accidents	Numerical value	6	1.
1.1a. Total number of suicides					
8	N07	Total number of suicides	Numerical value	78	1.
1.1b. Number of accidents relative to train kilometres (millions), total and broken down by accident categories					

9	N10	Total number of accidents relative to train kilometres	Numerical value (number per million train-km)	0.417	
10	N11	Number of train collisions including train impact with objects within the clearance gauge relative to train kilometres	Numerical value (number per million train-km)	0.007	
11	N12	Number of train derailments relative to train kilometres	Numerical value (number per million train-km)	0.082	
12	N13	Number of level-crossing accidents including accidents involving pedestrians at level crossing relative to train kilometres	Numerical value (number per million train-km)	0.104	
13	N14	Number of accidents to persons caused by rolling stock in motion relative to train kilometres, with the exception of suicides	Numerical value (number per million train-km)	0.149	
14	N15	Number of fires in rolling stock relative to train kilometres	Numerical value (number per million train-km)	0.030	
15	N16	Number of other accidents relative to train kilometres	Numerical value (number per million train-km)	0.045	
1.1b. Number of suicides relative to train kilometres (millions)					
16	N17	Number of suicides relative to train-km	Numerical value (number per million train-km)	0.581	
1.2a. Total number of people seriously injured, in all accidents and broken down by accident categories					2.
17	TS00	In accidents, total	Numerical value	14	
18	TS01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
19	TS02	In train derailments	Numerical value	0	
20	TS03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	8	
21	TS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	6	
22	TS05	In fires in rolling stock	Numerical value	0	

23	TS06	In other accidents	Numerical value	0	
1.2b. Total number of people seriously injured relative to train kilometres (millions), in all accidents and broken down by accident categories					
24	TS10	In accidents, total	Numerical value (number per million train-km)	0.104	
25	TS11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
26	TS12	In train derailments	Numerical value (number per million train-km)	0.000	
27	TS13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.060	
28	TS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.045	
29	TS15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
30	TS16	In other accidents	Numerical value (number per million train-km)	0.000	
1.2a. Number of passengers seriously injured, total and broken down by accident categories					1.
31	PS00	In accidents, total	Numerical value	1	
32	PS01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
33	PS02	In train derailments	Numerical value	0	
34	PS03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
35	PS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	1	
36	PS05	In fires in rolling stock	Numerical value	0	
37	PS06	In other accidents	Numerical value	0	

1.2b. Number of passengers seriously injured relative to train-km (millions), total and broken down by accident categories					
38	PS10	In accidents, total	Numerical value (number per million train-km)	0.007	
39	PS11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
40	PS12	In train derailments	Numerical value (number per million train-km)	0.000	
41	PS13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
42	PS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.007	
43	PS15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
44	PS16	In other accidents	Numerical value (number per million train-km)	0.000	
1.2c. Number of passengers seriously injured relative to passenger-km (billions), total and broken down by accident categories					
45	PS20	In accidents, total	Numerical value (number per billion passenger-km)	0.097	
46	PS21	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per billion passenger-km)	0.000	
47	PS22	In train derailments	Numerical value (number per billion passenger-km)	0.000	
48	PS23	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per billion passenger-km)	0.000	
49	PS24	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per billion passenger-km)	0.097	

50	PS25	In fires in rolling stock	Numerical value (number per billion passenger-km)	0.000	
51	PS26	In other accidents	Numerical value (number per billion passenger-km)	0.000	
1.2a. Number of railway staff seriously injured incl. staff of contractors, total and broken down by accident categories					1.
52	SS00	In accidents, total	Numerical value	3	
53	SS01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
54	SS02	In train derailments	Numerical value	0	
55	SS03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
56	SS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	3	
57	SS05	In fires in rolling stock	Numerical value	0	
58	SS06	In other accidents	Numerical value	0	
1.2b. Number of railway staff seriously injured incl. staff of contractors relative to train-km (millions), total and broken down by accident categories					
59	SS10	In accidents, total	Numerical value (number per million train-km)	0.022	
60	SS11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
61	SS12	In train derailments	Numerical value (number per million train-km)	0.000	
62	SS13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
63	SS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.022	

64	SS15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
65	SS16	In other accidents	Numerical value (number per million train-km)	0.000	
1.2a. Number of road users seriously injured on level crossing, total and broken down by accident categories					1.
66	LS00	In accidents, total	Numerical value	8	
67	LS01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
68	LS02	In train derailments	Numerical value	0	
69	LS03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	8	
70	LS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	0	
71	LS05	In fires in rolling stock	Numerical value	0	
72	LS06	In other accidents	Numerical value	0	
1.2b. Number of road users seriously injured on level crossing relative to train-km (millions), total and broken down by accident categories					
73	LS10	In accidents, total	Numerical value (number per million train-km)	0.060	
74	LS11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
75	LS12	In train derailments	Numerical value (number per million train-km)	0.000	
76	LS13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.060	
77	LS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.000	
78	LS15	In fires in rolling stock	Numerical value (number per	0.000	

			million train-km)		
79	LS16	In other accidents	Numerical value (number per million train-km)	0.000	
1.2a. Number of unauthorised persons seriously injured, total and broken down by accident categories					1.
80	US00	In accidents, total	Numerical value	2	
81	US01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
82	US02	In train derailments	Numerical value	0	
83	US03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
84	US04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	2	
85	US05	In fires in rolling stock	Numerical value	0	
86	US06	In other accidents	Numerical value	0	
1.2b. Number of unauthorised persons seriously injured relative to train-km (millions), total and broken down by accident categories					
87	US10	In accidents, total	Numerical value (number per million train-km)	0.015	
88	US11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
89	US12	In train derailments	Numerical value (number per million train-km)	0.000	
90	US13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
91	US14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.015	
92	US15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	

93	US16	In other accidents	Numerical value (number per million train-km)	0.000	
1.2a. Number of other persons seriously injured, total and broken down by accident categories					1.
94	OS00	In accidents, total	Numerical value	0	
95	OS01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
96	OS02	In train derailments	Numerical value	0	
97	OS03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
98	OS04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	0	
99	OS05	In fires in rolling stock	Numerical value	0	
100	OS06	In other accidents	Numerical value	0	
1.2b. Number of other persons seriously injured relative to train-km (millions), total or broken down by accident categories					
101	OS10	In accidents, total	Numerical value (number per million train-km)	0.000	
102	OS11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
103	OS12	In train derailments	Numerical value (number per million train-km)	0.000	
104	OS13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
105	OS14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.000	
106	OS15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
107	OS16	In other accidents	Numerical value (number per	0.000	

			million train-km)		
1.3a. Total number of people killed, in all accidents and broken down by accident categories					1.
108	TK00	In accidents, total	Numerical value	23	
109	TK01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
110	TK02	In train derailments	Numerical value	0	
111	TK03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	9	
112	TK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	14	
113	TK05	In fires in rolling stock	Numerical value	0	
114	TK06	In other accidents	Numerical value	0	
1.3b. Total number of people killed relative to train kilometres (millions), in all accidents and broken down by accident categories					
115	TK10	In accidents, total	Numerical value (number per million train-km)	0.171	
116	TK11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
117	TK12	In train derailments	Numerical value (number per million train-km)	0.000	
118	TK13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.067	
119	TK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.104	
120	TK15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
121	TK16	In other accidents	Numerical value (number per million train-km)	0.000	

1.3a. Number of passengers killed, total and broken down by accident categories					
122	PK00	In accidents, total	Numerical value	0	
123	PK01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
124	PK02	In train derailments	Numerical value	0	
125	PK03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
126	PK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	0	
127	PK05	In fires in rolling stock	Numerical value	0	
128	PK06	In other accidents	Numerical value	0	
1.3b. Number of passengers killed relative to train-km (millions), total and broken down by accident categories					
129	PK10	In accidents, total	Numerical value (number per million train-km)	0.000	
130	PK11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
131	PK12	In train derailments	Numerical value (number per million train-km)	0.000	
132	PK13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
133	PK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.000	
134	PK15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
135	PK16	In other accidents	Numerical value (number per million train-km)	0.000	
1.3c. Number of passengers killed relative to passenger-km (billions), total and broken down by accident categories					

136	PK20	In accidents, total	Numerical value (number per billion passenger-km)	0.000	
137	PK21	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per billion passenger-km)	0.000	
138	PK22	In train derailments	Numerical value (number per billion passenger-km)	0.000	
139	PK23	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per billion passenger-km)	0.000	
140	PK24	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per billion passenger-km)	0.000	
141	PK25	In fires in rolling stock	Numerical value (number per billion passenger-km)	0.000	
142	PK26	In other accidents	Numerical value (number per billion passenger-km)	0.000	
1.3a. Number of railway staff killed incl. staff of contractors, total and broken down by accident categories					
143	SK00	In accidents, total	Numerical value	0	
144	SK01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
145	SK02	In train derailments	Numerical value	0	
146	SK03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
147	SK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	0	
148	SK05	In fires in rolling stock	Numerical value	0	
149	SK06	In other accidents	Numerical value	0	
1.3b. Number of railway staff killed incl. staff of contractors, total and broken down by accident categories					
150	SK10	In accidents, total	Numerical value (number per million train-km)	0.000	
151	SK11	In train collisions including train impact with objects within	Numerical value (number per	0.000	

		the clearance gauge	million train-km)		
152	SK12	In train derailments	Numerical value (number per million train-km)	0.000	
153	SK13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
154	SK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.000	
155	SK15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
156	SK16	In other accidents	Numerical value (number per million train-km)	0.000	
1.3a. Number of road users killed on level crossing, total and broken down by accident categories					1.
157	LK00	In accidents, total	Numerical value	9	
158	LK01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
159	LK02	In train derailments	Numerical value	0	
160	LK03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	9	
161	LK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	0	
162	LK05	In fires in rolling stock	Numerical value	0	
163	LK06	In other accidents	Numerical value	0	
1.3b. Number of road users killed on level crossing relative to train-km (millions), total and broken down by accident categories					
164	LK10	In accidents, total	Numerical value (number per million train-km)	0.067	
165	LK11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	

166	LK12	In train derailments	Numerical value (number per million train-km)	0.000	
167	LK13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.067	
168	LK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.000	
169	LK15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
170	LK16	In other accidents	Numerical value (number per million train-km)	0.000	
1.3a. Number of unauthorised persons killed, total and broken down by accident categories					1.
171	UK00	In accidents, total	Numerical value	14	
172	UK01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
173	UK02	In train derailments	Numerical value	0	
174	UK03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
175	UK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	14	
176	UK05	In fires in rolling stock	Numerical value	0	
177	UK06	In other accidents	Numerical value	0	
1.3b. Number of unauthorised persons killed relative to train-km (millions), total and broken down by accident categories					
178	UK10	In accidents, total	Numerical value (number per million train-km)	0.104	
179	UK11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
180	UK12	In train derailments	Numerical value (number per	0.000	

			million train-km)		
181	UK13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
182	UK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.104	
183	UK15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
184	UK15	In other accidents	Numerical value (number per million train-km)	0.000	
1.3a. Number of other persons killed, total and broken down by accident categories					1.
185	OK00	In accidents, total	Numerical value	0	
186	OK01	In train collisions including train impact with objects within the clearance gauge	Numerical value	0	
187	OK02	In train derailments	Numerical value	0	
188	OK03	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value	0	
189	OK04	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value	0	
190	OK05	In fires in rolling stock	Numerical value	0	
191	OK06	In other accidents	Numerical value	0	
1.3b. Number of other persons killed relative to train-km (millions), total and broken down by accident categories					
192	OK10	In accidents, total	Numerical value (number per million train-km)	0.000	
193	OK11	In train collisions including train impact with objects within the clearance gauge	Numerical value (number per million train-km)	0.000	
194	OK12	In train derailments	Numerical value (number per million train-km)	0.000	

195	OK13	In level-crossing accidents including accidents involving pedestrians at level crossing	Numerical value (number per million train-km)	0.000	
196	OK14	In accidents to persons caused by rolling stock in motion, with the exception of suicides	Numerical value (number per million train-km)	0.000	
197	OK15	In fires in rolling stock	Numerical value (number per million train-km)	0.000	
198	OK16	In other accidents	Numerical value (number per million train-km)	0.000	
2.1a. Numerical value (number per million train-km)					
199	100	Total number of deficiencies	Numerical value	517	
200	101	Total number of broken rails	Numerical value	187	1.
201	102	Total number of track geometry faults	Numerical value	102	1.
202	103	Total number of signalling failures leading to less certain signalling information than required	Numerical value	6	1.
203	104	Total number of unauthorised SPADs (signals passed at danger)	Numerical value	217	1.
204	105	Total number of broken wheels on rolling stock (in service)	Numerical value	2	1.
205	106	Total number of broken axles on rolling stock (in service)	Numerical value	3	1.
2.1b. Number of deficiencies relative to train-km (millions), total and broken down by accident categories					
206	110	Total number of deficiencies and incidents	Numerical value (number per million train-km)	3.850	
207	111	Total number of broken rails	Numerical value (number per million train-km)	1.390	
208	112	Total number of track geometry faults	Numerical value (number per million train-km)	0.759	
209	113	Total number of signalling failures leading to less certain signalling information than required	Numerical value (number per million train-km)	0.045	
210	114	Total number of unauthorised SPADs (signals passed at danger	Numerical value (number per million train-km)	1.620	

211	115	Total number of broken wheels on rolling stock (in service)	Numerical value (number per million train-km)	0.015	
212	116	Total number of broken axles on rolling stock (in service)	Numerical value (number per million train-km)	0.022	
3.1a. Total cost in euro for all accidents					
213	C00	Cost for all accidents	Numerical value (euro)	79 530 122	
214	C01	Cost for people killed	Numerical value (euro)	43 306 774	2.
215	C02	Cost for people injured	Numerical value (euro)	7 412 473	2.
216	C03	Cost for replacement or repair of damaged rolling stock and railway infrastructure	Numerical value (euro)	24 775 843	1.
217	C04	Cost for delays, disruption and re-routing of traffic, including extra costs for staff and loss of future revenue	Numerical value (euro)	4 035 032	1.
3.1b. Costs in euro for all accidents relative to train-km (millions)					
218	C10	Total cost for all accidents	Numerical value (euro per million train-km)	591 983	
219	C11	Cost for people killed	Numerical value (euro per million train-km)	322 354	
220	C12	Cost for people injured	Numerical value (euro per million train-km)	55 174	
221	C13	Cost for replacement or repair of damaged rolling stock and railway infrastructure	Numerical value (euro per million train-km)	184 419	
222	C14	Cost for delays, disruption and re-routing of traffic, including extra costs for staff and loss of future revenue	Numerical value (euro per million train-km)	30 035	
3.2a. Total number of lost working hours for railway staff including the staff of contractors as a consequence of accidents					
223	W00	Total number of lost working hours for railway staff	Numerical value	7 124	1.

		including the staff of contractors as a consequence of accidents			
3.2b. Lost working hours relative to total number of hours worked for railway staff including the staff of contractors					
224	W10	Percentage of lost working hours relative to total number of working hours for railway staff including the staff of contractors	Numerical value	0.03%	
4. Indicators related to technical safety of infrastructure and its introduction					
225	T01	Percentage of tracks with ATP in service	Numerical value (%)	66%	1
226	T02	Percentage of train-km on tracks with ATP in service	Numerical value (%)	93%	
227	T03	Total number of level crossings	Numerical value	10 572	
228	T04	Total number of level crossings per track-km	Numerical value	0.696	
229	T05	Percentage of level crossings with automatic or manual crossing protection	Numerical value (%)	33%	
5. Indicators relating to the management of safety					
230	A01	Total number of audits accomplished	Numerical value	188	
231	A02	Percentage of audits accomplished compared to number planned	Numerical value (%)	97%	
6. Reference data					
232	R01	Number of train kilometres	Numerical value (million train-km)	134 345	
233	R02	Number of passenger kilometres	Numerical value (billion passenger-km)	10 296	
234	R03	Number of kilometres of rail (double-track lines considered separately)	Numerical value (km)	15 198	
235	R04	Total hours worked	Numerical value	27 486 739	

Definition used	

1. Safety directive 2004/49/EC

2. National definition, see explanation in Annex F

Annex D: List of all important changes in national law and other national regulatory frameworks

	Legal reference	**Date legislation enters into force**	**Reason for introduction** (specify new law or amendment to existing legislation)	**Description**
General national legislation on railway safety				
Legislation concerning NSA	Section 2a of the Investigation of Accidents Ordinance (1990:717) and Section 5 of the Ordinance (2007:1028) with instructions for the Swedish Rail Agency	1 July 2007 and 22 November 2007	Art. 19-21 Directive 2004/49/EC and Art. 18 Directive 2004/49/EC	Directive 2004/49/EC (Art. 19-21) specifies requirements of independent accident investigation bodies. As the Swedish Rail Agency is an NSA, accidents should no longer be investigated by the Swedish Rail Agency. In accordance with Directive 2004/49/EC (Art. 18), NSAs must publish an annual report concerning their activities.
Legislation concerning notified body, assessor, third parties' bodies for registration, examination, etc.	No change to national legislation, although there has been an amendment to Annex VI (Directive 2001/16/EC last amended by Directive 2007/32/EC) which affects the significance of monitoring that is to take place according to national legislation (Chapter 2 Section 9 of the Swedish Railway Act (2004:519))	Published in the Official Journal of the European Union of 2 June 2007, coming into force 20 days after publication.		Introduction of intermediate monitoring explanation in order to simplify things for manufacturers, for example.

	Legal reference	Date legislation enters into force	Reason for introduction (specify new law or amendment to existing legislation)	Description
National regulations concerning rail safety				
Regulations concerning national safety targets and safety methods	No change			
Regulations concerning requirements of safety management systems and the issuing of safety certificates to railway undertakings.	Chapter 2 Section 5 and Chapter 3 Section 3 of the Swedish Railway Act (2004:519) Swedish Rail Agency regulations (JvSFS 2007:1) on safety management systems and other safety regulations for railway undertakings Swedish Rail Agency regulations (JvSFS 2007:3) on applications for a permit for railway operations	Law in force 1 July 2007 Regulations in force 5 September 2007	Art. 9-10 Directive 2004/49/EC	New rules concerning safety regulations and certificates for railway undertakings.
Regulations concerning requirements of safety management systems and the issuing of safety authorisations to infrastructure operators.	Chapter 2 Section 5 and Chapter 3 Section 7 of the Swedish Railway Act (2004:519) Swedish Rail Agency regulations (JvSFS 2007:2) on safety management systems and other safety regulations for infrastructure managers Swedish Rail Agency regulations (JvSFS 2007:3) on applications for a permit for railway operations	Law in force 1 July 2007 Regulations in force 5 September 2007	Art. 9 and 11 Directive 2004/49/EC	New rules concerning safety regulations and authorisation of infrastructure managers.
Regulations concerning requirements of vehicle owners.	Chapter 2 Section 13b of the Railway Act (2004:519) as well as Swedish Rail Agency regulations (JvSFS 2007:7) on the registration and marking of railway vehicles	1 December 2007	Directives 2004/50/EC and 2004/49/EC	For safety reasons, every vehicle used must be assigned an identification code. Vehicles should then be registered in a vehicle register

	Legal reference	**Date legislation enters into force**	**Reason for introduction** (specify new law or amendment to existing legislation)	**Description**
Regulations concerning requirements of maintenance workshops.	No change			
Regulations concerning requirements for authorisation to place in service and maintain new or significantly altered rolling stock, including regulations on the exchange of rolling stock between railway undertakings, registration systems and requirements for testing activities.	Swedish Rail Agency regulations (JvSFS 2006:10) on the technical specification of interoperability relating to the subsystem "Rolling stock" for conventional rail systems concerning freight wagons	Regulations (JvSFS 2006:10) in force 31 January 2007	Decision of the Commission 2006/861/EC	
Common rules for operating the railway network, including regulations affecting procedures for signalling and traffic.	No change			

Regulations concerning requirements for additional internal operational regulations that must be approved by the railway undertakings and infrastructure managers.	Chapter 2 Section 5 of the Swedish Railway Act (2004:519) Section 12 of the Swedish Rail Agency regulations (JvSFS 2007:1) on safety management systems and other safety regulations for railway undertakings Section 12 of the Swedish Rail Agency regulations (JvSFS 2007:2) on safety management systems and other safety regulations for infrastructure managers	Law in force 1 July 2007 and Regulations in force 5 September 2007	Internal additional regulations were previously in the Swedish Railway Inspectorate's regulations (BV-FS 2000:2) on safety provisions. These regulations were replaced by JvSFS 2007:1 and JvSFS 2007:2	
Regulations concerning requirements of staff with duties that are important for traffic safety, including selection criteria, health requirements, occupational training and certification.	No change			
Regulations concerning the investigation of accidents and incidents, including recommendations	Chapter 2 Section 6 of the Swedish Railway Act (2004:519) Section 2 of the Investigation of Accidents Act (1990:712) Section 2a of the Investigation of Accidents Ordinance (1990:717)	1 July 2007	Art. 19-21 Directive 2004/49/EC	Amendments made in order to comply with the criteria specified in Directive 2004/49/EC concerning the investigation of accidents. The Directive also places requirements on the independent investigating body for accidents. As the Swedish Rail Agency is an NSA, accidents should no longer be investigated by the Swedish Rail Agency.
Regulations concerning requirements for CSIs, including reporting and analysis.	Chapter 2 Section 5a of the Swedish Railway Act (2004:519)	1 July 2007	Art. 9.4 and 18 Directive 2004/49/EC	The requirements of Directive 2004/49/EC that railway undertakings and infrastructure managers must submit safety reports to the safety authority (Art. 9.4) and that the safety authority must submit an annual report to the Agency (Art. 18).

	Legal reference	**Date legislation enters into force**	**Reason for introduction** (specify new law or amendment to existing legislation)	**Description**
Regulations concerning requirements for authorisation to place in service rail infrastructure (tracks, bridges, tunnels, ATC, radio, signalling, interlocking, level crossings, platforms etc.).	Chapter 3 Section 7 of the Swedish Railway Act (2004:519) Swedish Rail Agency regulations (JvSFS 2007:3) on applications for a permit for railway operations	Law in force 1 July 2007 Regulations in force 5 September 2007	Art. 11 Directive 2004/49/EC	New rules concerning authorisation of infrastructure managers

Annex E: The development of safety certification and authorisation

E.1 Safety certification pursuant to Directive 2001/14/EC

Number of safety certificates issued under Directive **2001/14/EC** to railway undertakings in 2006	in own country	3
	in another Member State	0

Note on E.2-E.6: A "*" has been placed in those boxes where the Swedish Rail Agency is unsure as to how the information can be returned.

E.2 Safety certification pursuant to Directive 2004/49/EC

		New	**Updated/ amended**	**Renewed**
E.2.1. Number of valid Part A safety certificates held by railway undertakings registered in 2006	in own country	4	0	0
	in another Member State	*	*	*

		New	**Updated/ amended**	**Renewed**
E.2.2. Number of valid safety certificates Part B held by railway undertakings registered in 2006	in own country	4	1	0
	in another Member State	*	*	*

			Accepted	Rejected	Pending
E.2.3. Number of applications for Part A **safety certificates** submitted by railway undertakings registered in 2006	in own country	New certificates	4	0	0
		Updated/amended certificates	0	0	0
		Renewed certificates	0	0	0
	in another Member State	New certificates	*	*	*
		Updated/amended certificates	*	*	*
		Renewed certificates	*	*	*

			Accepted	Rejected	Pending
E.2.4. Number of applications for **part B safety certificates** submitted by railway undertakings registered in 2006	in own country	New certificates	4	0	3
		Updated/amended certificates	1	0	1
		Renewed certificates	0	0	0
	in another Member State	New certificates	*	*	*
		Updated/amended certificates	*	*	*
		Renewed certificates	*	*	*

E.3. Safety authorisation pursuant to Directive 2004/49/EC

	New	Updated/amended	Renewed
E.3.1 Number of valid safety authorisations held by infrastructure managers registered in 2007 in own country.	59	0	0

		Accepted	Rejected	Pending
E.3.2. Number of applications for safety authorisations submitted by infrastructure managers registered in 2007	New authorisation	59	0	Approx. 10
	Updated/amended authorisation	0	0	0
	Renewed authorisation	0	0	0

E.4. Procedural aspects – Part A safety certificate

		New	Updated/amended	Renewed
Processing time after having received all necessary information between the receipt of an application and the final delivery of a Part A safety certificate in 2007 for railway undertakings and registered in 2007	a certificate issued by own country	2 wks	2 wks	-
	a certificate issued by another Member State	*	*	*

E.5. Procedural aspects – Safety certificate Part B

		New	Updated/amended	Renewed
Processing time after having received all necessary information between the receipt of an application and the final delivery of a safety certificate Part B in 2007 for railway undertakings and registered in 2007	a certificate issued by own country	2 wks	2 wks	-
	a certificate issued by another Member State	*	*	*

E.6. Procedural aspects – Safety authorisations

		New	Updated/amended	Renewed
Processing time after having received all necessary information between the receipt of an application and the final delivery of a safety authorisation in 2007 for infrastructure managers and registered in 2007	a certificate issued by own country	2 wks	-	-
	a certificate issued by another Member State	*	*	*

Annex F: Definitions used

The definitions below are mostly taken from the Swedish Rail Agency's guidance for accident and safety reporting. The guidance is also available on the Swedish Rail Agency's website at www.jvs.se.

Accidents included in the report:

- are related to railway vehicles in motion
- are unwanted or unintended, i.e. excluding vandalism and sabotage

  Note: suicides are presented separately.
- have not have occurred in workshops, warehouses or depots (e.g. engine sheds).

and have led to one or more of the following consequences:

- at least one person has died within 30 days
- at least one person has been so seriously injured as to require hospital treatment for more than 24 hours

  National definition: in relation to serious injury, before 2007 the previous national definition of 14 days' sick leave was used to some extent.
- railway vehicles, the rail infrastructure, the environment or property not being transported by railway vehicle suffers such damage that the costs for this are at least EUR 150,000 (approximately SEK 1.4 million)
- rail traffic on the track in question was completely blocked for at least six hours

If an accident leads to a secondary accident, e.g. a collision that leads to a fire, the accident is reported according to the category of the primary accident. In the example, this means that even if the secondary accident of a fire had the greater impact, the accident should still be reported as a collision.

(Directive 2004/49/EC and Regulation 1192/2003/EC)

Differences compared with the accident statistics supplied to Eurostat

In 2007, two people died in accidents to persons, one as a result of suicide and one person was seriously injured in a level-crossing accident. These were reported to SIKA/Eurostat but are not included in this report. The figures for 2006 have been adjusted so that they are comparable with those of 2007. In 2006, therefore, one person died in an accident to persons, one as the result of suicide, two were killed and three seriously injured in three level-crossing accidents and one other accident (impact during shunting) with costs of more than SEK 1.4 million, which have all been excluded from this report.

Definitions relating to accident categories
Train

One or more locomotives or multiple units, with or without carriages connected, running according to timetable under a given number designation. (Regulation 1192/2003/EC adjusted to also include trains with a single locomotive.)

Note:
In this context, carriages being shunted according to timetable count as a train.

Train collision, including impact with objects within the clearance gauge
Train collisions are divided into two subgroups when the indicators are reported: train collision and impact.

Train collision refers to any type of collision between a train and another railway vehicle, e.g. between a train and

- the front part of another train
- the rear part of another train
- the part of another train that is within the clearance gauge
- a vehicle involved in a shunting movement

Train impact refers to collisions between a train and

- a solid object
- an object which is temporarily present within the clearance gauge (except objects dropped by a road-user at a level crossing)

Note:
A train collision leading to derailment is reported as a train collision. The category "impact" also includes running over animals if this leads to a significant accident. A collision only between vehicles which are not run as trains is reported under the category of "others". Impact with an object which has been dropped by a road user on a level crossing is reported as a "level-crossing accident".

Train derailment
An accident involving at least one wheel leaving the rail.

Note:
An event where the train returns to the rails is also reported if it leads to an accident with the consequences stated above. Derailments involving movements other than train movements are reported as "others" if they cause an accident with the consequences stated above.

Fire in rolling stock
Accidents involving fires or explosions occurring inside a moving railway vehicle (including the cargo). Fires or explosions occurring when a train stops at an intermediate passenger interchange or during shunting at an intermediate passenger interchange should also be reported. Fires are deemed to be fires in passenger trains from the time a train is stationary at the platform and ready to receive passengers until the train reaches its final destination and all passengers have left the train.

Note:
Fire also includes smoke production with a clearly defined core. Neither arson fires nor fires occurring during siding or shunting at marshalling yards are included.

Accident to person caused by rolling stock in motion
Accidents where one or more individuals are hit by a railway vehicle or by an object which is attached to or which falls from a railway vehicle. This includes accidents involving individuals falling from a moving railway vehicle as well as accidents involving individuals falling inside a railway vehicle or being hit by a loose object inside a railway vehicle.

Suicide accident
An act to deliberately injure oneself resulting in death or serious injury; the Swedish Rail Agency checks the details with the police authority.

Level-crossing accident
An accident occurring on a level crossing involving at least one railway vehicle and one or several road vehicles, pedestrians or cyclists. A collision with an object which has fallen from a road vehicle or been dropped on a level crossing by a road user is reported as a level-crossing accident.

Note:
A collision with an object on a level crossing which has not fallen from a road vehicle or been dropped by a road user is reported as an impact and not as a level-crossing accident.

Other accident
All accidents related to railway vehicles in motion but which cannot be classified as a train collision, train derailment, level-crossing accident, accident to person, suicide or fire.

Note:
The main types of accidents in this category are:

- *Collisions and derailments with locomotives other than trains*
- *Discharge of dangerous goods during transport*
- *Loose objects not transported on or fixed to the train and which shoot away from it, e.g. ballast, ice, etc.*

Definitions for death and serious injury

Passenger
A person travelling on the train and who is not part of the train crew. When accidents are reported, persons boarding or alighting a moving train are also included in the category of "passengers". (Regulation 1192/2003/EC)

Note:
A person crossing the tracks at a station where this is not allowed is classified as "unauthorised", whereas in all other cases, this person is classified as "other". Individuals on the platform, for example waiting for a train, are classified as "other".

Employee
A person who has employment associated with the railway and who is on duty when an accident occurs. This includes train crew and employees working on railway vehicles or railway infrastructure.

Road user on level crossing
A person using a level crossing to cross railway tracks either on/in a vehicle or on foot.

Unauthorised person on railway premises
A person who, without permission, is on railway premises where this is not allowed.

Other person
A person who is not classified as passenger, railway staff, road user on a level crossing or unauthorised person.

Definitions for deficiencies

If any of the deficiencies result in an accident that must be reported, this is also reported as an accident. If, for example, a SPAD leads to a collision, this should be reported as 1 SPAD and 1 collision.

Unauthorised signal passed at danger (SPAD)

Event where a part or all of the train has without authority passed the reserved route's end of movement.

Note:
Examples of SPADs:

- *unauthorised passing of main signal showing "stop"*
- *unauthorised passing of end of movement for a route as indicated by cab information*
- *unauthorised passing of an S-board or steadily held stop signal (flag or equivalent)*

Events involving vehicles starting to roll uncontrollably and passing a stop signal are not included in this indicator, nor are SPADs resulting from a signal changing to "stop" too late for the driver to have time to stop.

Broken wheel
A wheel fracture creating a risk of derailment or causing a derailment.

Broken axle
An axle fracture creating a risk of derailment or causing a derailment.

Broken rail
A rail split into two or more parts, or a rail from which metal has come loose with a resulting gap of more than 50 mm in length and more than 10 mm in depth in the rail running surface.

Track geometry fault
All faults related to track geometry requiring immediate shut-down or reduction of speed in order to maintain safety.

Signalling failure leading to less certain signalling information than required
All faults of the signalling system (both railway infrastructure and rolling stock) leading to less restrictive signalling information than required.

Note:
This indicator refers to technical faults leading to signalling information allowing a higher speed than required or not showing a "stop" signal when so required. This indicator also includes faults concerning the display in the driver's cab.

Definitions for the financial consequences of accidents

In terms of CSIs relating to the financial consequences of accidents, the total costs for the railway undertaking or infrastructure manager is reported for all accidents, i.e. including accidents not reported in the safety reports.

The European Railway Agency is currently revising the CSIs associated with the consequences of accidents. These indicators will be revised so as to ensure that the socio-economic consequences of accidents and socio-economic benefits of the prevention of accidents are measured. Until further notice, the below applies, however.

Indemnity or compensation recovered or considered to have been recovered from third parties such as motor vehicle owners involved in level-crossing accidents should be deducted from the costs reported by the operator. Compensation recovered through insurance policies held by the operator should not be deducted.

The general advice is to base calculations of the financial consequences on own actual costs. Default values for accident costs may be used as a basis for the operator's reporting.

Costs related to people killed and injured
A method is being developed for calculating the socio-economic consequences of people killed and injured in railway accidents.

National definition: Number of people killed multiplied by the recommended value for deaths in traffic.

National definition: Number of people injured multiplied by the recommended value for people injured in traffic.

Calculation method, including reference to source:

The figures are based on calculated values for deaths and injuries from a socio-economic perspective, compiled by SIKA in *PM 2005:16*[22]. They also include costs for people who are slightly injured. The calculated values are then multiplied by the number of people killed and injured. The numbers of people seriously injured and killed are taken from the table in Annex C. The number of people slightly injured is based on the operators' safety reports. There is some uncertainty as to people slightly injured, since, to avoid duplication of reporting, these figures are only required from railway undertakings, with the effect that, for example, slightly injured staff members of infrastructure undertakings are not included. Nor are the figures on people who are slightly injured reported or checked for every single event, the way that those on people who are seriously injured or killed are. All figures on costs are converted into euro at an exchange rate of SEK 9.3 to EUR 1.

Compensation for loss of or damage to property of passengers, staff or third parties

The sum that, based on the operator's experience, has to be or was paid in compensation to passengers, staff or third parties due to their loss or damage owing to accidents.

Note:
This indicator is not included in the ERA templates for tables and diagrams and is therefore not included in the report.

Compensation for damage to the environment

The sum that, based on the operator's experience, must be or was paid for restoring a damaged area to its condition prior to a railway accident. This indicator concerns accidents involving release of pollutants, both transported substances such as dangerous goods and other environmentally hazardous substances, for example fuel.

Note:
This indicator is not included in the ERA templates for tables and diagrams and is therefore not included in the report.

Costs for replacement or repair of railway infrastructure or rolling stock

The costs for acquiring new railway infrastructure or rolling stock with the same functionality and technical performance as equipment that cannot be repaired, and the costs for restoring damaged railway infrastructure or rolling stock to the same level as they were before an accident.
The costs are estimated by the operator on the basis of their experience, and include any costs for renting rolling stock during the period a vehicle is unavailable due to an accident.

[22] *Kalkylvärden och kalkylmetoder* (ASEK) *En sammanfattning av Verksgruppens rekommendationer* ("Calculated values and calculation methods (ASEK) A summary of working party recommendations"), PM 2005:16, http://www.sika-institute.se/doclib/Import/106/pm_2005_16.pdf p.11, 18 July 2007.

Costs for delays, disruption and re-routing of traffic, including extra costs for staff and loss of future revenue
Until further notice, this reporting is based on the costs that, on the basis of the operator's experience, the operator incurs for delays, re-routing and cancellation of traffic due to accidents. This includes:

- compensation to passengers
- overtime worked by staff
- compensation to freight customers
- costs for replacement buses
- loss of revenue due to cancelled trains

Note:
Loss of revenue is only reported in those cases where it has not been possible to arrange replacement transport. For instance, if buses replaced trains, the costs for the replacement buses should be reported but not the loss of revenue.

Definitions relating to working hours

Total number of working hours that should have been completed in the reporting year by own and contractors' staff
The number of working hours that, on the basis of the operator's experience, should have been completed by own and contractors' staff in all activities carried out by the operator during the year.

Number of working hours of own staff and staff of contractors lost as a result of them being injured in accidents
The number of working hours that, on the basis of the operator's experience, was lost due to absence from work of own and contractors' staff resulting from their injury in accidents.

Note:
Lost working hours should include hours absent from work. Assigning staff to other tasks as a result of an accident does not constitute lost working hours.

Definitions relating to traffic data and the technical safety of the infrastructure

Train
One or more locomotives or multiple units, with or without carriages connected, running according to timetable under a given number designation. (Regulation 1192/2003/EC adjusted to also include trains with a single locomotive.)

Note:
In this context, carriages being shunted according to timetable count as a train.

Train kilometre
Unit of measure representing the movement of a train over one kilometre. The distance used is the distance actually run, if available, otherwise the standard network distance between the origin and destination should be used. Only the distance on Swedish territory should be taken into account. (Regulation 1192/2003/EC)

Train kilometre on track with an automatic train supervision system in service
Unit of measure representing the movement of a train over one kilometre of track equipped with an automatic train supervision system in service. An automatic train supervision system is a technical system that monitors adherence to signalling information and speed restrictions by means of speed monitoring and automatic

emergency stop at stop signals. The infrastructure manager should specify which systems of this kind are used. An example of an automatic train supervision system is ATC.

Passenger kilometre
Unit of measure representing the transport of one passenger by rail over a distance of one kilometre. Only the distance on Swedish territory should be taken into account. (Regulation 1192/2003/EC)

Kilometres of rail
The length of the track being operated on. Double-track or multi-track lines are calculated separately. A 100 km line with double-track lines is therefore 200 kilometres of rail.

Kilometres of rail equipped with an automatic train supervision system in service
The length of track being operated on that is equipped with an automatic train supervision system in service. An automatic train supervision system is a technical system that monitors adherence to signalling information and speed restrictions by means of speed monitoring and automatic emergency stop at stop signals.

Total number of level crossings and the number of level crossings with a crossing protection system that automatically warns road users by means of sound, light or barriers
Level crossing = a crossing on the same level between a road[23] and a railway, assigned by the infrastructure manager and available to users of public or private roads.

Note:
Platform crossings are not considered as level crossings, nor are crossings used only by employees.

Definitions relating to safety management

Some elements of the operators' safety management systems[24] and the results of certain activities related to safety management systems are described below. The elements described are safety targets, action plans and system audits. The operators must also report any deficiencies and faults discovered in relation to safety at railway operations and infrastructure management in general.

Safety targets
Indicate the long-term safety targets for the operation and the safety targets for the year to which the report relates. The targets must be indicated in the documentation of the safety management system. Whether or not the targets are met is also indicated. If the targets have not been met or only partially met, the identified or suspected reason for this is indicated. Measures that are planned or have been carried out in order to achieve the targets that have not been met or only partially been met must also be indicated.

Action plans
Describe the action plans for safety-enhancing activities implemented and the reason for deciding on these safety-enhancing activities. Also describe the results of the action plans.

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[23] Public or private road or street, including footpaths and cycle paths.

[24] Rules on safety management systems are stipulated in the Swedish Rail Agency regulations (JvSFS 2007:1) on safety management systems and other safety regulations for railway undertakings and in the Swedish Rail Agency regulations (JvSFS 2007:2) on safety management systems and other safety regulations for infrastructure managers.

Describe the reason for implementing the safety-enhancing activities in the action plans. If, for example, an event has occurred that has led to the safety-enhancing activities, describe the event or events at a general level, e.g. the type of accident, incident, major fault or major deficiency, the circumstances surrounding the event(s) and the consequences that did occur or could have occurred and which are the reason for the safety-enhancing measures.

System audits
A system audit is a systematic inspection to determine whether safety-related activities and the associated results correspond to what was planned and whether the activities were carried out in an effective manner and are appropriate to achieving targets (JvSFS 2007:1 and JvSFS 2007:2).

The following must be reported:

- The total number of system audits planned for the year to which the report relates
- The total number of system audits carried out during the year to which the report relates
- Description of the results of the system audits carried out during the year to which the report relates

Annex G: Queries, Procedural aspects Section F.3.

Queries Section F.3.3.1, Part A Safety certificates

3.1.1. Reasons for updating/amending Part A safety certificates (e.g. variation in type of service, extent of traffic, size of company).

3.1.2. Main reasons if the average processing time for Part A safety certificate applications was more than the four months specified in Article 12(1) of the Safety Directive (restricted to the authorisations referred to in Annex E. Average processing time calculated from the date when all the required information was received by the authority).

3.1.3. Overview of the requests from other National Safety Authorities to verify/access information relating to a Part A safety certificate of a railway undertaking that has been certified in the home country, but is applying for a Part B certificate in another Member State.

3.1.4. Summarise problems with the reciprocal acceptance of the Part A safety certificate valid Community-wide.

3.1.5. Does the NSA charge a fee for issuing a Part A safety certificate?

3.1.6. Summarise the problems with using the harmonised formats for Part A safety certificates.

3.1.7. Summarise the common problems/difficulties for the NSA in application procedures for Part A safety certificates.

3.1.8. Summarise the problems mentioned by railway undertakings when applying for a Part A safety certificate.

3.1.9. Is there a feedback or query procedure that allows railway undertakings to express their opinion on application procedures/practices or to file complaints?

Queries Section F.3.3.2, Part B Safety certificates

3.2.1. Reasons for updating/amending Part B safety authorisation (e.g. variation in type of service, extent of traffic, type of vehicle, category of staff, significant changes to operating procedures, etc.).

3.2.2. Main reasons if the average processing time for Part B safety certificate applications was more than the four months specified in Article 12(1) of the Safety Directive (restricted to the authorisations referred to in Annex E. Average processing time calculated from the date when all the required information was received by the authority).

3.2.3. Does the NSA charge a fee for issuing a Part B safety certificate? (Yes, No, Level of fee)

3.2.4. Summarise the problems with using the harmonised formats for Part B safety certificates.

3.2.5. Summarise the common problems/difficulties for the NSA in application procedures for Part B safety certificates. 87

3.2.6. Summarise the problems mentioned by railway undertakings when applying for a Part B safety certificate.

3.2.7. Is there a feedback or query procedure that allows railway undertakings to express their opinion on application procedures/practices or to file complaints?

Queries Section F.3.3.3, Safety authorisations

3.3.1 Reasons for updating/amending safety authorisations. (Reasons may refer to individual applications, e.g. new rail installations, new signalling systems, significant changes to operating procedures).

3.3.2. Main reasons if the average processing time for safety authorisation applications was more than the four months specified in Article 12(1) of the Safety Directive (restricted to the authorisations referred to in Annex E. Average processing time calculated from the date when all the required information was received by the authority).

3.3.3 Summarise the regular problems/difficulties in application procedures for safety authorisations.

3.3.4. Summarise the problems mentioned by Infrastructure Managers when applying for a safety authorisation.

3.3.5. Is there a feedback or query procedure that allows infrastructure managers to express their opinion on application procedures/practices or to file complaints?

3.3.6. Does the NSA charge a fee for issuing safety certificates?

(Yes, No, Level of fee).