



Rail Safety & Standards Board

INFORMATION BULLETIN

Rail network safety performance for 2006 shows continuing improvement

RSSB has published its Annual Safety Performance Report for 2006 which shows continued improvements in both passenger and workforce safety. The headlines from 2006 were:

- For a second consecutive year, no one was killed on a train in an accident. This is the first time this has been achieved in the history of the railways in Great Britain.
- Two passengers died as a result of assault. A further six passengers died in accidents at stations; alcohol was a contributory factor in three cases.
- Two members of the workforce died in accidents in the trackside environment.
- The number of potentially higher risk train accidents was 6% lower than 2005.
- At the end of 2006, the risk from signals passed at danger (SPADs) stood at less than 10% of its March 2001 level.
- For the first time since 1997, there were no accidental fatalities involving vehicle drivers at level crossings.
- Five pedestrians died at level crossings, the lowest total since 1999.
- Fatalities arising from trespass and suicide increased during 2006, with a total of 288 compared with 248 in 2005.

A copy of the report can be found on RSSB's website at www.rssb.co.uk/spreports.asp

The term 'train accident' covers a wide range of events, most of which carry little potential for harm. Analysis concentrates on the number of potentially higher risk train accidents, which, at 47, was a 6% reduction on the 50 that

occurred in 2005. Because train accidents are relatively rare, the industry also analyses trends in precursors to accidents. Based on this analysis, the overall trend is one of reducing risk. The following are among the precursors to have shown improvements during 2006:

- Level crossing near misses fell by 11%.
- Broken rails reduced by 28% to the lowest recorded figure of 227.
- The number of SPADs classed as potentially severe reduced from 22 to 18.
- Objects placed on the line by vandals, and the incidence of non-rail vehicles on the line, fell by 9% and 14% respectively.

At the end of 2006, the risk from SPADs stood at less than 10% of the March 2001 level. This reduction is a major achievement for the industry, and results from the implementation of TPWS, in combination with a wide range of other industry initiatives.

The number of passenger major injuries fell from 254 to 210, due to a significant reduction in the number of accidents at stations (where the majority of passenger major injuries occur). The largest reduction came in the boarding/alighting category, with slips, trips and falls showing an improvement.

Tragically, two members of the workforce were killed during the year, but this is the fewest number of staff fatalities since 1997, and the first time in the same period that no track worker fatalities have occurred. Workforce major injuries also showed significant improvement, with a reduction of 24% from 2005, continuing the downward trend seen since 2004.

Workforce personal security is another key issue. Effort has focused on encouraging staff to report all incidents of abuse, no matter how minor. Over the past five years, there has been a steady fall in the reported number of assaults resulting in physical injury.

Although five pedestrians died at level crossings, this is the lowest number since 1999. In addition, as indicated above, there were no accidental road vehicle occupant



deaths for the first time since 1997. The number of collisions between road vehicles and trains was the lowest total for over ten years, and 39% lower than the average for the previous four years. For the second year running, there was no derailment resulting from a collision at a level crossing.

These achievements confirm the railway industry's commitment to maintain safety and where reasonably practicable, make improvements.

For more information contact **Liz Davies, safety intelligence strategy manager, 020 7904 7493** or email liz.davies@rssb.co.uk

Standards News

V/S System Interface Committee Bulletin

The System Interface Committees (SICs) have become well established over the past two years and have contributed to identifying solutions to issues with railway systems that arise at the interface between industry partners.

In May RSSB published a combined SIC bulletin that covered the SIC seminar at the IMechE in March. The seminar described the work of the SICs and how this relates to broader industry programmes such as the Technical Strategy.

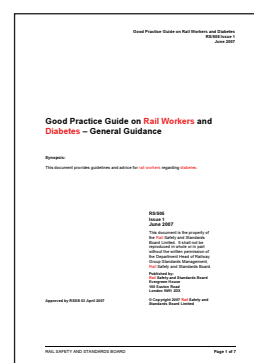
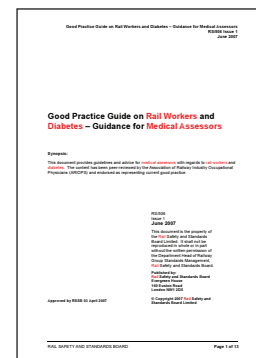
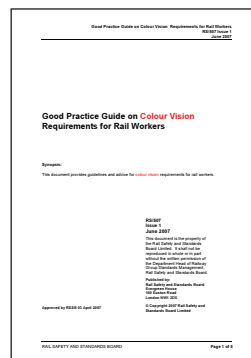
For more details on the work of the SICs, please visit the RSSB website at <http://www.rssb.co.uk/sysic.asp>. If you have any questions about the work of the SICs, contact **Adam Milligan, head of systems coordination on 020 7904 7629** or email adam.milligan@rssb.co.uk

New Medical Good Practice Guides

Industry often requests guidance on medical matters, particularly where it is believed that Railway Group Standards do not offer sufficient information on specific topics. One topic which always provokes questions is diabetes. In the UK, increasing numbers of people are diagnosed with this problem, and in some cases it can affect job prospects.

Concerns about people with diabetes and their fitness for safety critical work are based on the knowledge that some of these individuals have a greater than average likelihood of impairment of awareness or concentration, sudden incapacity or loss of consciousness. Although

such impairments may be due to gradually developing disorders such as visual impairment or heart disease, these are normally detectable in the context of the periodic medical examination. Hypoglycaemia is of particular concern because it is difficult to assess or predict and may affect otherwise healthy people who have well controlled diabetes.



Dr Shackleton, medical advisor to RSSB, has written two Good Practice Guides which will be published in June. RS/505 provides general guidance on rail workers and diabetes, and RS/506 is a more technical document aimed at providing guidance for medical assessors.

Another medical issue which provokes many enquiries is that of colour vision. A new Good Practice Guide, RS/507 'Colour Vision Requirements for Rail Workers' has been produced to try to answer some of industry's questions. It provides some general information relating to colour vision requirements and testing and how it may affect the fitness for work of employees. This is also being published in June.

All three new documents offer a variety of helpful reference materials in the form of reports and websites. There is also a new website under construction by the Association of Railway Industry Occupational Physicians (ARIOPS) which may provide some information for employers. This can be found at www.ariops.org.uk



Industry colleagues are asked to remember that any medical enquiries with regard to Railway Group Standards should initially be made to the RSSB Enquiry Desk.

For more details on this article or the Good Practice Guides, please contact **Louise Webb, standards project manager** on **020 7904 7021** or email louise.webb@rssb.co.uk

Got an issue with a Railway Group Standard? Call the **RSSB Enquiry Desk** on **020 7904 7518** or email enquirydesk@rssb.co.uk



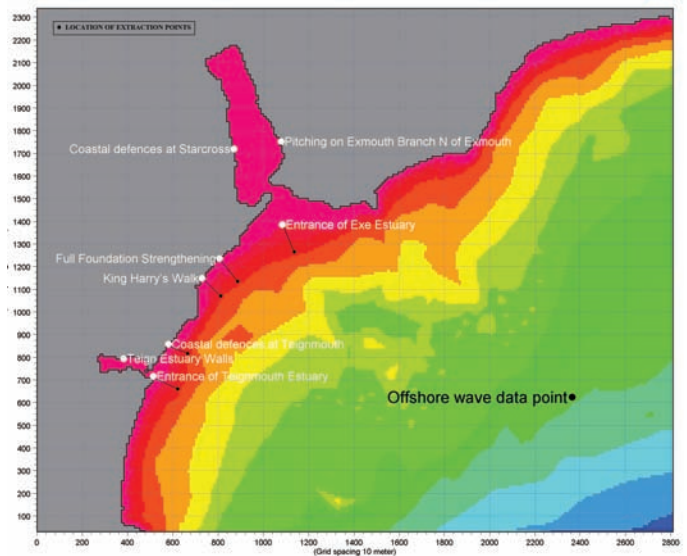
Elva Fernandes who managed the RSSB Enquiry Desk has recently retired from the rail industry. The new face on the Enquiry Desk is Helen Dumbrell.

The Impact of Climate Change on Railway Infrastructure

Climate change, in particular sea level rise, is likely to increase the severity of the wave, tidal and wind effects on coastal and estuarine defence assets. It is therefore important to estimate the impact climate change is likely to have on railway infrastructure, so that informed management decisions can be made.

The coastal and estuarine defence assets at Dawlish, between the Teign and Exe estuaries, are particularly vulnerable to the effects of extreme weather. This presented an opportunity to assess the impact of climate change for actual defence assets affected by extreme weather and to develop a methodology for assessing the effects on infrastructure of future extreme weather events resulting from climate change.

RSSB, in collaboration with Network Rail, has commissioned research involving a detailed assessment of the impact of climate change for six sites between the Teign and Exe estuaries. These sites were selected as



Offshore water depth contours at Dawlish (based on 2006 data)

representative of sites vulnerable to the worst effects of extreme weather.

Numerical modelling was used to assess the wave heights and overtopping rates for the present day (2006), the 2020s, 2050s and 2080s. The effects of climate change on the wave heights and overtopping were established from current predictions supplied by the Met Office Hadley Centre.

The RSSB research has shown that, based on a median estimate of sea level rise, wave overtopping at Dawlish could increase by 50% in the 2020s, 100% in the 2050s and 200% in the 2080s. In such situations, the structural integrity of the defences will become increasingly vulnerable and disruption to train services is likely to increase significantly.

The results of RSSB's research will be helpful to Network Rail in determining appropriate management strategies for the affected defences. It has also demonstrated the application of a methodology that could be adopted by Network Rail for assessing the vulnerability of sea defences to the effects of climate change. The methodology developed provides a basis for assessing other railway asset types affected by climate change.

For more details please contact **John Lane, structures engineer** on **020 7904 7636** or email john.lane@rssb.co.uk



Taking Safe Decisions

In the GB railway industry safety is our overriding priority. Almost every policy, investment or operational decision taken has an impact on safety. On 4 June 2007 RSSB published the industry document 'Taking safe decisions' which outlines the principles that the industry applies to embed consideration of safety effectively into decisions. The document was developed through a series of research activities and industry consensus building and signed off by the RSSB and its Safety Policy Group for publication as an industry document. It has been supplied to all those companies who are seeking safety certification under the Railways and Other Guided Systems (Safety) Regulations 2006.

The publication describes how decisions should be taken that properly protect the safety of staff, passengers and the public, satisfy the law, respect the interests of stakeholders, and are commercially sound.

A key principle that is clarified is that in the GB railway industry decisions are taken for both commercial and legal reasons. We distinguish between these reasons as they have implications for whether or not a decision is mandatory, and how the impact of that decision is subsequently managed and perceived. The document is available from the RSSB website at <http://www.rssb.co.uk/sdmoukr.asp>.

'Taking safe decisions' has been developed over a period of several years and is published by RSSB following an extensive programme of research, analysis and consultation. Three supporting publications are currently being developed:

- The 'decision taking framework' will provide a description of how the principles outlined in 'Taking safe decisions' can be translated into practical action, including reference to tools and techniques available to support decision taking within the industry.
- A compendium of case studies to provide a selection of illustrative examples of decision making, to demonstrate how both the principles and the framework can be applied to real decisions.

- The RSSB work in support of the Programme, including consultation and research outputs is being consolidated to outline the logical, practical and legal arguments behind the consensus industry position set out in 'Taking safe decisions'.

The full suite of documents is planned to be published in Autumn 2007. For any further information about the Safety Decisions Programme, please contact **George Bearfield, programme manager**, on **0207 904 7706** or email george.bearfield@rssb.co.uk

RDDS acquired by RSSB

At the request of the industry, RSSB acquired a 100% share holding in Railway Documentation and Drawing Services Ltd (RDDS) on 30 March 2007 from The British Railways Board (Residuary) Ltd.

RDDS has two principal purposes:

- To act as the custodian of the British Railway Board's Traction and Rolling Stock Drawings and Documents
- To provide copies of such documentation to persons and organisations

The current services provided by RDDS continue in the current format. RSSB has nominated two directors onto the Board of RDDS and if stakeholders wish to propose any changes they can do so through them. The library of drawings and documents managed by the Company is closed to new material and the volume is reducing as older rolling stock is withdrawn from service.

Nevertheless the library remains an important source of information for businesses in the railway industry and the Company works closely with the RDDS Managed Documentation Stakeholder Group, which represents the Company's principal customers, to ensure that access to the drawings and documents is maintained.

RSSB's two nominated directors are Anson Jack (anson.jack@rssb.co.uk) and Elizabeth Fleming (elizabeth.fleming@rssb.co.uk).

SMS – a guide to RSSB activities issue 2

RSSB has prepared a short guide to its activities in relation to The Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS).



The purpose of the guide is to help RSSB members, transport operators and other relevant stakeholders prepare their company ROGS-compatible safety management systems for safety certification and authorisation purposes.

The guide explains the industry interface arrangements of RSSB, as well as the adoption of these arrangements. This will help our members consistently describe the interface with, and participation in, RSSB processes and systems. Therefore, this is an essential component of ROGS duty of cooperation requirement. To view the guide visit www.rssb.co.uk/docs/SMS_a_guide_to_RSSB_activities_Issue_2.doc

For more information contact **Nigel Finney, safety management systems specialist** on **020 7904 7940** or email nigel.finney@rssb.co.uk

Research into the use of digital hearing aids for safety critical staff

In 2004, South West Trains identified there were increasing numbers of safety critical staff having to step down from their normal duties due to their failure to meet the current hearing standard. The company undertook a pilot study to assess the feasibility of providing such staff with hearing aids to allow them to continue to work in safety critical roles. First ScotRail took similar steps to address the same issue in 2006.

The availability of digital hearing aids, which are much more reliable and effective than the analogue versions which were in use when the relevant Railway Group Standards were drawn up, has made this a practical proposition for all TOCs

However, there are variations in response by TOCs to this potentially strategic issue. RSSB has been asked by South West Trains, First ScotRail, Northern Rail and Virgin Trains to commission a new research project, 'Use of hearing aids by operational staff (T654)', with the following positive results anticipated:

- **Saved time** – by identifying the safe systems of work required to allow all individuals, wearing appropriate hearing aids, to perform various tasks. Issues such as the need to carry spare batteries, what to do in the rare cases of an aid breaking down, and how often retesting will be needed, will all be considered.
- **Saved money** – by ensuring that individuals who are recruited for safety critical positions, including drivers, conductors/guards, and station staff, will not need to leave their posts as a result of 'normal' deterioration of hearing. The cost to the industry of replacing several dozen train drivers each year, some of whom may not be long out of training, is considerable.
- **Avoided complexity** – by providing occupational health physicians and line managers with the information needed to make appropriate decisions regarding the continued employment of individuals. For example, details of the functionality of hearing aids required for different work environments, a methodology for testing hearing with hearing aids in place, cost-benefit justifications, suggestions for purchasing the services of audiologists, etc.
- **Increased personal benefits** – by investing in measures to extend the careers of skilled employees who would otherwise most probably have had to leave the industry or be retired on health grounds. The proposed approach should, if found to be consistent with the proper management of risk, help many individuals to continue to contribute effectively to the industry and outside of the workplace.

The project started in May 2007 and will last several months. A steering group has been established and includes several TOC representatives, and the selection of a company to undertake the study is nearly complete.

For more information please contact **Michael Woods, head of operations research** on **020 7554 4604** or email michael.woods@rssb.co.uk

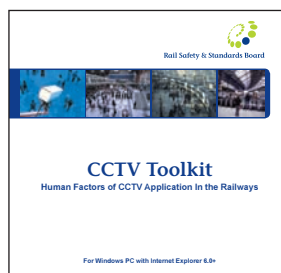
Strategic Safety Plan 2008-10

The process for the development of the 2008-10 Strategic Safety Plan (SSP) is underway and overseen by the industry's Safety Policy Group. As in previous years consultation with transport operators will form a key part of the development process and to this end a



Spotlight

CCTV Toolkit



series of workshops were held during April to get feedback on the structure and design of the 2007-09 Plan and the content of the guidance document which was published by RSSB in January 2007.

The 2008-10 SSP will build on the 2007-09 Plan and again be based on a bottom up aggregation of transport operator plans and industry actions to address the nine key risk areas. These will be the foundation for the development of the industry trajectories which will estimate the scale of the risk reduction which can be expected as a result of the declared industry actions being achieved. It is hoped that transport operators will be able to forecast in their company safety plans the safety benefits that the actions they take will deliver, which in turn will enable more quantitative trajectories to be developed for the SSP.

To facilitate the production of the Plan and the calculation of the trajectories, transport operators are requested to send their 2007 or 2007-08 safety plans to RSSB when they are published and also to produce a statement of the actions being carried forward into 2008 and beyond, and forward this to RSSB by the end of August this year. It is planned to publish the 2009-10 SSP in January 2008.

For further information please contact **Graham Arkwright, change manager, safety regulation** on **020 7904 7963** or email graham.arkwright@rssb.co.uk

Events

| Date | Name of event | Location |
|-------------------|-------------------------------|---|
| 18 September 2007 | Driver Training Conference | Lakeside, Aston Business School, Birmingham |
| 31 October 2007 | Sustainable Development 2007 | Wellcome Conference Centre, London |
| 8 November 2007 | ROGS 'One Year On' Conference | Wellcome Conference Centre, London |

For more information on these events, please contact **Stella Okezie, conference manager** on **020 7904 7934** or email stella.okezie@rssb.co.uk

The industry asked RSSB to provide more information to support the procurement, implementation and management of CCTV systems on the national rail network.

The RSSB CCTV Toolkit aims to ensure that the system design can meet a variety of industry needs and support operator capabilities. Published on a CD-Rom which contains operational good practice from published research and industry experience. It will:

- Lead the user through each stage of the system lifecycle – from definition and procurement, through day-to-day management, to replacement and decommissioning.
- Provide information on specific CCTV-related subjects, eg design of control rooms, operator selection and training, specification of monitors and cameras and data recording plus maintenance.
- Answer frequently asked questions, eg. How big should a CCTV workstation be, how do I estimate maintenance costs, how do I reduce boredom and fatigue in operators?
- Illustrate good and bad practices through real-life case studies, including forward-facing CCVT in drivers' cabs, level crossing CCTV, experience from the British Transport Police and the Home Office.

The RSSB CCTV Toolkit contains current good practice and will need to be updated. Industry experience will help towards development of future editions.

If you would like to obtain a copy of the CD-Rom, provide feedback on the RSSB CCTV Toolkit or share your CCTV experiences with RSSB please contact the **RSSB Enquiry Desk** on **020 7904 7518** or email enquirydesk@rssb.co.uk