Growing rail industry sees safety performance move even further ahead

Record numbers of passengers and freight are being carried by rail, and the latest industry figures suggest that the people who use and work on the railway are benefiting from even higher levels of safety.

The national rail network was already seeing the highest number of passenger-kilometres travelled since the 1920s, but recent trends suggest that will have been surpassed in 2011-12. At the same time, industry’s mainline railway safety record has been even further enhanced, in the latest high-level summary figures published by RSSB in the Overview of safety performance for 2011. This means that, rather than increasing in line with growth, the overall number of incidents and levels of harm passengers, public and workforce experience is actually decreasing, as it has been for a number of years.

The headlines

- For the fourth year in succession, there were no passenger or workforce fatalities in train accidents.
- Three passengers died in separate incidents at stations. This is the lowest number of passenger fatalities recorded in a calendar year.
- One member of the workforce was fatally injured (in a road traffic accident), compared with three in 2010.
- The number of incidents that could have developed into worse scenarios (known as potentially higher risk train accidents or PHRTAs) in 2011 was 28, compared with 25 occurring
in 2010. The past two years have seen significantly lower numbers of PHRTAs than previous years.

• At 283, the number of category A signals passed at danger (SPADs) for 2011 was lower than the 306 occurring in 2010. There was a significant reduction in the risk from SPADs, as at the end of 2011 the risk was at 41% of the September 2006 baseline level, compared with 86% at the end of 2010.

• At eight, the total number of fatalities occurring to members of the public, and not involving trespass or suicide, was equal to 2010. Six of the fatalities occurred at level crossings, also the same number as the previous year.

• Fatalities arising from trespass and suicide totalled 261 in 2011, compared to 259 in 2010.

There remain challenging issues – especially at level crossings and at the platform edge - and industry continues to explore opportunities to reduce risks in these areas.

The Overview of safety performance for 2011 is published on the RSSB website. For more details contact Liz Davies, safety intelligence strategy manager on 020 3142 5475 or email liz.davies@rssb.co.uk.

Supplier Assurance Framework Project - update

Procurement is not always associated with the safe operation of the railway; however the modern railway is critically dependent on the contribution of suppliers and their products and services. Rail companies and their supply chain therefore require confidence in their suppliers. This confidence is often referred to as supplier assurance. Where this is inadequate, the consequences can be serious; both to the safety of workforce and passengers, but also in terms of money wasted.

Research undertaken by RSSB identified that supplier assurance arrangements practiced across industry cost in the region of £100m per annum and there is considerable potential to make these arrangements more efficient and effective.

To help seize this opportunity, RSSB has worked with its members and many other buyer and supplier industry stakeholders to understand more about the existing landscape and plan how to improve. A three-stage plan, endorsed by the RSSB Board, commenced in April 2011 (and reported in Information Bulletin at the time), with a target of achieving annual savings of £35m, equivalent to 375 person-years of effort.

Stage 1 of that plan is now nearing completion with:

• Aligned governance across the various current schemes

• The development of standardised approaches to categorising products and services (commodities)

• The basis and rules for identifying the associated risk imported on to the railway by each commodity to inform development of the optimal assurance intervention strategy required.

Stage 2 starts in the spring of 2012 and builds on Stage 1 by developing a specification for future arrangements based on the 'Supplier Assurance Framework Model'.

Following consultation and agreement of the new specifications, implementation of the new arrangements will begin. This will include appropriate information systems, training and procedures at businesses.

Finally, Stage 3 will seek to develop and introduce performance improvement and processes.

The project is being managed by RSSB on behalf of the whole mainline rail industry including Network Rail, the Association of Train Operating Companies, Freight Technical Committee, rolling stock leasing companies, the Railway Industry Association, scheme providers and suppliers.

For more information, contact Brian Evans, programme manager, Stage 1, brian.evans@rssb.co.uk or go to the dedicated networking site www.rssb-safp.com, which also includes a link to the new guide, ‘Securing supplier assurance’.
Charles Horton joins RSSB Board

Charles Horton, Managing Director of Southeastern has joined the RSSB Board as a Non-Executive Director after he was nominated by the ATOC Board to represent passenger train operators’ interests.

Charles Horton recognises that RSSB plays a key role in helping the industry achieve continuous improvement in the health and safety performance and also has a wider role in supporting cross industry groups, managing research and development and providing safety intelligence. He says ‘I am delighted to be joining the RSSB Board at time of significant change in the industry as we meet the combined challenges of achieving better value for money, industry reform and Network Rail devolution. In nominating me to take up this role the ATOC Board particularly stressed the importance of my role as Chairman of ATOC Operations Council and need to maintain strong links between this group and RSSB. It’s an opportunity that I relish.’

‘All companies in the UK rail industry share a common goal of delivering a reliable and environmentally friendly railway while offering value for money. Tony Collins, Chief Executive of Virgin Trains and I are the two passenger train operator representatives on the Board. It’s our job to ensure that the views, concerns and needs of the TOCs are fully reflected in the important work that RSSB do on behalf of us all.’

The Operational Concept for the GB Mainline Railway

The operation of the railway is based on a set of fundamental operating principles, which are informed by the long collective experience of the railway industry, including its responses to legislation, lessons learned from accidents and the introduction of new technologies. The nine principles are set out in the box below. They have been articulated by senior railway industry operations managers and endorsed by the Traffic Operation and Management Standards Committee. The core aim of the principles is the safe and timely delivery of people and goods to their destinations.

The Operational Concept describes what is necessary to implement the principles and deliver the core aim. It provides the link between the aims outlined in the Fundamental Operating Principles and:

- Railway Group Standards containing requirements, for duty holders.
- National operating rules and procedures for duty holders’ employees.
- Processes required by duty holders within their safety management system.

The mapping of rules and principles helps duty holders understand the key operational risk controls that are delivered by rules. This facilitates operational change, by making it easier to identify the risk controls and rules that may need to be changed, and at what level, when projects are proposed that affect the operation of the railway.

The diagram illustrates how the fundamental operating principles and the operational concept relate to the overall high level standards change process. This includes the relationship to domestic legislation in the Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS).
To help understand and manage situations that can be precursors to accidents, Network Rail Infrastructure Projects requested RSSB, via the Research programme, to deliver an information system that provides industry with the ability to record and analyse Close Call incidents.

There are many examples of what constitutes a Close Call, including:

• Excavations not protected or signposted properly
• Hazardous materials incorrectly stored
• Trip hazards lying around a site
• Loose carpet tiles on a staircase
• Overgrown access routes
• An unfastened seat belt

In June 2011 RSSB and Network Rail implemented a web based Close Call System that meets the specification of Network Rail Infrastructure Projects.

The Close Call System:
• Provides the means to collect and analyse Close Call data electronically.
• Makes the information available to the wider industry via the SMIS data extraction software.
• Assist industry by providing it with intelligence to execute plans to mitigate the risk from actual occurrence.

While the system was developed for use by Network Rail Infrastructure Projects and its contractors, any organisation within the UK rail industry, including train and freight operating companies can use the Close Call System to record and analyse their close call data, at no cost.

To get started and register your organisation, at no cost, please go to www.closecallsystem.co.uk.

Further supporting information on the Close Call System can be found at: www.help.closecallsystem.co.uk

Close Call System – now available to all

In 2010 the Office of Rail Regulation (ORR) produced the ORR Health Programme 2010 to 2014. This health programme in many ways aligns the ORR with the UK Government’s efforts to re-examine the health and well-being of the working population. Government sees this work as important to the continuing competitiveness of UK industry, because of:

• An increase in workforce age and change in its composition (eg later retirement, older workforce)
• Rising costs of chronic disease and ill-health (eg work related cancers, obesity, musculoskeletal disorders)

Since July 2011 RSSB has started working with its members to understand how the industry may wish to respond to the ongoing challenge of managing worker health.

RSSB has been engaging:
• Individual companies to understand more about their particular issues and concerns

Work-time Health – RSSB Roadshows review and consensus building within industry

The fundamental operating principles are:

• The method of signalling must maintain a space interval between trains that is safe.
• Before a train is allowed to start or continue moving, it must have an authority to move that clearly indicates the limit of that authority.
• Trains proceeding over any portion of line must not be obstructed in a way that threatens their safety.
• Trains must be prevented from proceeding onto a portion of line if it is known or suspected that it would not be safe for them to pass.
• Trains must not be allowed to begin or continue their journeys until it is clear that it is safe for them to do so.
• Trains must only be allowed to operate over any portion of line as long as the rolling stock is compatible with the infrastructure on that portion of line.
• Trains must not continue to operate after they have been found to be unsafe in any respect, until measures have been taken to allow them to continue safely.
• People must be kept at a safe distance from moving trains.
• The workforce must be protected from the particular hazards associated with electrified railways.
• A range of companies through occupational health workshops (including trade unions)
• A range of functional groups from across an organisation (HR, safety, OH specialists)
• Sector groups including ATOC Safety and HEROH (HR Employee Relations and Occupational Health) fora as well as the Infrastructure Safety Liaison Group (ISLG)
• External organisations that offer good practice examples and advice on occupational health management

Thus far industry engagement points toward a lack of industry data to build business cases to understand if or where industry resources should be targeted. RSSB will continue to build industry consensus and work to understand if anything can be done by RSSB to add value to industry in this area.

On 16 February 2012 the next Industry Safety Meeting (ISM) will be held at RSSB’s offices. The ISM is held twice a year and allows the leaders of Britain’s rail companies to devote some quality time to consider important health and safety issues and opportunities. Occupational health within the rail industry will be the topic of focus for this meeting and the outputs will contribute to the ongoing dialogue.

If you wish to find out more about this topic please contact Darryl Hopper, sms specialist, on 020 3142 5389 or email darryl.hopper@rssb.co.uk.

Station Safety Resource Centre now live on Opsweb

During 2010 the Operations Focus Group (OFG) recognised the increasing passenger safety risk associated with stations. In response to this the Station Safety Improvement Programme was established to work with Safety Management Systems (SMS) holders. An industry working group was established with representatives from Southeastern, Network Rail, LOROL, DB Schenker, ATOC, ORR and RSSB and in June 2011 a dedicated Project Manager, Andy Wallace, was seconded in from East Coast Trains.

The programme has delivered a dedicated Station Safety Resource Centre area on Opsweb (www.opsweb.co.uk).

The Station Safety Resource Centre has been developed to provide Opsweb users with a secure web based platform for accessing and sharing information. The materials provided are suitable for use at stations of all sizes and include publications, safety briefing information and safety management tools that are considered to be ‘good practice’. The information is directed towards all grades of personnel who work at railway stations and those responsible for the safe management of these challenging environments.

Information on the centre is categorised into the following areas and offer guidance and examples of good practice to ensure users can easily find what they are looking for:

• Training
• Competence for those involved in assessing the competence of others
• Briefings for those involved in design and/or delivery of staff safety briefs.
• Risk Management for those responsible for managing risk at railway stations

The Station Safety Resource Centre can be located in the Resources and Tools section of Opsweb.
http://opsweb.co.uk/resources-and-tools/station-safety-resource-centre

There are several initiatives aimed at improving safety on railway stations across Great Britain and increasing awareness amongst station staff such as:

• RED 28 – Risk at the Platform Train Interface
• Platform Train Interface Special Topic Report
• Introduction of RIS-3703 Rail Industry Standard for Passenger Train Dispatch and Platform Safety Measures
• Review of sample SMS holder stations safety improvement initiatives including station safety plans
• Awareness raising at industry events/forums and meetings
• Various research projects

Defect Reporting And Corrective Action System (DRACAS)

New control, command and signalling (CCS) systems are being deployed on Great Britain’s railways. The most significant of these is ERTMS (European Rail Traffic Management System), a family of technologies standardised across Europe. ERTMS consists of two major components:

• GSM-R (GSM for Railways), a rail-specific telecommunications technology based on GSM (Global System for Mobile communications) cellular systems
• ETCS (European Train Control System), a standard for in-cab control of trains

The present industry arrangements for complying with Railway Group Standard GE/RT8106 may not be sufficiently robust to support the new CCS systems. GE/RT8106 (RSSB, 2008) requires infrastructure managers and railway undertakings to operate a DRACAS for all new shared CCS systems.
This means that a DRACAS capability is needed, which will require a new way of working, involving people, processes and information technology.

In support of this requirement, 3 research projects were initiated by the Vehicle Train Control and Communications System Interface Committee (VT C&C SIC) under the guidance of a cross industry DRACAS working group:

• T754 generated a customer requirements specification for DRACAS as well as a high level strategy document, to assess the overall rationale for a DRACAS, and the potential for its application and roll-out across the railway industry.

• T957 investigated the costs and benefits to the GB railway industry of a shared DRACAS, for new CCS systems. It developed a costing business model, a supporting report, and a series of presentations that can be used by the DRACAS working group and the V/TC&C SIC to support implementation decisions.

• T960 is now underway to develop a potential system architecture design for a future DRACAS and a proposal for standards change to update GE/RT8106. The output is intended to specify the DRACAS architecture and framework in terms of the stakeholder interface and co-operation requirements, and will outline the process and technical requirements necessary to support a DRACAS for a new CCS system.

Future work will consider whether a central co-ordinating role is required and who could fulfil it, and the need to prepare a functional requirement specification for the development of a DRACAS analysis tool to support this.

The diagram below shows the concept for a future CCS DRACAS.

![Concept of CCS DRACAS](image)

Figure 1: Concept of a CCS DRACAS
RSSB is supporting this work through its management of the Vehicle/Train Control and Communication System Interface Committee and the research programme, so that industry can have a robust evidence base for a shared DRACAS concept. As the work goes on, and the DRACAS concept becomes more of a reality, there will be more communication to raise awareness of this approach, ahead of decision-making about standards.

Stage 2 development of the Vehicle Track Interaction Strategic Model

For the last three years or so, RSSB has managed the delivery of research project T792 Stage 2 Development of the Vehicle Track Interaction Strategic Model (VTISM) and a launch event was held to promote it at the end of October 2011.

This was an opportunity to demonstrate to industry representatives the use and effectiveness of VTISM and how it can be applied. Delegates who wished were encouraged to request training and a license to use the VTISM model.

VTISM now includes modelling of the costs associated with wheelset maintenance and renewal, enhancing the previous version which focussed on the track maintenance and renewal costs. It is now possible for train operators and maintainers to review and determine what the optimum wheelset maintenance strategy for the fleets they operate and maintain could be. For example, it is possible to determine if wheel turning should be mileage or condition based, understand lathe capacity constraints and forecast anticipated wheelset change out requirements without the need to conduct lengthy
physical trials. The graphic below summarises the areas covered by version 2.6

Summary of the structure of VTISM 2.6

The capital cost of wheelsets across the current passenger fleets is above £200M so tools that help optimise the cost of maintaining these assets and extend their lives can enable significant cost reductions.

The training course lasts two days and is delivered by Serco and Manchester Metropolitan University. An initial course was held in December 2011 with representatives from Interfleet Technology, Network Rail, First Capital Connect, Siemens plc and ATOC.

The VTISM software is available to RSSB members for GB rail industry use and is supplied subject to training and the terms of a software licence.

For further information, please contact the RSSB Enquiry Desk on 020 3142 5400 or email enquirydesk@rssb.co.uk

Events - Risk Management Forum

Date: 17 April 2012

Theme: 1. CSM for Risk Assessment
2. Occupational Health
3. ‘Are the railways too safe?’ interactive discussion
4. Behavioural Safety and Safety Culture

Where: RSSB offices, London

Open to everyone – Due to limited space non-RSSB member companies can register no more than two delegates.

Cost: £45.00

To register contact conferences@rssb.co.uk