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Working for a safer railway

RAILWAY SAFETY

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Since its formation as a company independent of Railtrack PLC at the end of 2000, Railway Safety has fulfilled a unique and essential role. An integral part of the UK rail industry, we have provided leadership, focus and technical expertise in rail safety.

As from 1 April 2003, this role passed to a new organisation, the Rail Safety and Standards Board Limited (RSSB). The RSSB incorporates much of the expertise built up over many years in Railway Safety and its predecessors, and during the past year we have devoted considerable resources to ensuring a seamless transfer of responsibilities.

Chairman's foreword



I should like to thank all the members of my Board and the very hard-working staff of Railway Safety who have made major strides in understanding many technical issues of safety and promoting safety.

This is only the third – but also the last – report on Railway Safety, since our role has been taken over by the recently created Rail Safety and Standards Board Limited (RSSB). The transfer date was 1 April 2003.

Although Railway Safety grew out of the Railtrack-owned Safety and Standards Directorate, we clearly achieved a high degree of independence from Railtrack (now Network Rail Limited) over the past few years. This was a feature that was commended by Lord Cullen in his report on the structure of the railway industry. However, the same report emphasised the need for increased independence from any single part of the industry and recommended the creation of an industry-owned body to lead safety culture and set high-level technical safety standards across the whole industry. This is, of course, the basis of the RSSB.

We have naturally been heavily involved in the consultative process to create the new body, which has been overseen by the Office of the Rail Regulator (ORR). It has been a slow process but everyone was keen to get the answer correct first time. All the members of my Board join me in wishing the RSSB well. It is primarily based on the existing staff of Railway Safety who are moving across with the transfer of the principal roles from our company to the RSSB. I am retiring at this juncture but some of the existing Board are joining the new company, together with directors appointed by various sectors of the industry. It is clearly important to ensure a smooth transition in terms of the ongoing roles while moving to a more industry-led process for the future.

This report covers the twelve-month period up to 1 April 2003, which therefore includes the tragic accident at Potters Bar on 10 May last year. This happened at a time when the industry was still recovering from the effects of earlier accidents – in particular, the one at Hatfield. Clearly the industry has suffered several severe setbacks over the past two years, both in terms of major accidents and the movement of Railtrack into railway administration. We later became part of (but very arms-length from) Network Rail Limited and I have been pleased to see the new organisation getting a grip on some of the historical problems.

Our safety leadership role has included facilitating and managing the production of the Railway Group Safety Plan. This involves developing and promoting an industry-wide policy and long-term strategy for improving safety across all companies within the Railway Group. This year we paid particular attention to senior-level consultation before starting the process. The plan was published in January 2003 and I am particularly pleased to see that the process has again been well supported across the industry.

This report summarises many of the activities we have been involved in during the past twelve months and I would only draw brief reference to two areas. First of all we have played a much larger role in European affairs, including setting standards as a result of the European Interoperability Directive which has now become part of UK law. We have also established and sponsored a major programme of research in which we sponsor both

industry and UK universities on safety aspects of rail transport. The aim is to publish the results of this research openly to benefit the whole industry and to exchange information internationally.

I am sad to report that Rod Muttram, our outstanding Chief Executive, is not transferring to the new company. He has provided high-quality professional leadership of our company and we all wish him well in the future.

I should finally like to thank all the members of my Board and the very hard-working staff of Railway Safety who have made major strides in understanding many technical issues of safety and promoting safety, at a time when the industry has gone through difficult times and their own future has been somewhat uncertain. Now that we have a clear way ahead, I wish them well in the new company. I am sure the whole industry will benefit enormously from the efforts to improve safety culture across the whole Railway Group.



Sir David Davies Chairman
31 March 2003

Chief executive's report



I will always remain very proud of what the dedicated teams of people in Railway Safety have achieved. We hand the work and many of those people on to the RSSB.

In my statement last year I speculated that the 2001/02 report would probably be the last full year report on Railway Safety's operation. In the event it has taken longer than expected to establish the Rail Industry Safety Body (RISB) recommended by Lord Cullen, and one more full year of Railway Safety's operation has been completed.

As the Chairman has already outlined, the new body is called the Rail Safety and Standards Board Limited (RSSB) and the interpretation of Lord Cullen's recommendation that the body should have 'governance arrangements' inclusive of all those affected by Group Standards has resulted in a body which is owned by all of the industry. In the case of Network Rail and train operators, membership of the RSSB is mandated by their operating licences issued by the ORR. For suppliers who are not licence holders, membership is voluntary but it is to be hoped that all will join to make the RSSB as inclusive as possible. In consultation, the trades unions concluded that it would not be appropriate for them to be members of the RSSB, but will continue to be represented via a revitalised Safety Advisory Board (SAB).

Most of the staff of Railway Safety are transferring to the RSSB. In parallel with the industry's establishment of the RSSB the government is, through the Railways and Transport Safety Bill (currently proceeding through Parliament), progressing the formation of an independent Rail Accident Investigation Branch (RAIB). Railway Safety, and its predecessor, Railtrack's Safety and Standards Directorate, have consistently supported this measure which was subsequently also recommended by Lord Cullen's Part II Report into the Ladbroke Grove collision. The RAIB will take over some of the RSSB's inquiry role, but the RSSB will continue to be involved in investigating less serious accidents and incidents, and in recording and tracking the industry's responses to both RAIB and industry inquiry recommendations. Until the RAIB is formed and operational, the RSSB will continue to discharge the formal inquiry role previously undertaken by Railway Safety.

The Chairman has already mentioned the derailment at Potters Bar which occurred during the year. Our deepest sympathy goes to all those affected by this terrible event. The investigation of this accident has proved particularly difficult and, almost a year later, the industry still does not have a detailed understanding of what occurred sufficient to determine corrective action. The possibility of criminal charges places constraints on the British Transport Police (BTP) and the Health and Safety Executive (HSE) which does not make the learning of safety lessons by the industry any easier. This is not to be critical of the BTP or the HSE; it is a result of the current legal arrangements and processes. It is hoped that the formation of the RAIB, and the new legislation that supports it, will better facilitate the learning of safety lessons whilst allowing these other agencies to still carry out their public interest roles effectively.

Potters Bar reminds the whole industry that it can never be complacent about safety, but on many other key indicators safety has continued to improve. Broken rails were down again, and signals passed at danger (SPADs) achieved another all-time low despite a very stormy weekend in October 2002 which resulted in a

short, sharp leaf fall season and the worst single day for SPADs since records began, with 21 SPADs recorded on 28 October 2002.

Railway Safety has contributed very significantly to improving safety on Britain's railways during its relatively short life. The Research Programme is now 'up and running' and starting to deliver results. Most of the standards improvements recommended by the public inquiries of recent years have been implemented. We have published a number of 'good practice' guides including one on SPAD investigation and one on assessing and managing senior team competence, along with a computer-based assessment tool. These are in use by many companies across the industry. We have worked with the industry and the Strategic Rail Authority (SRA) to improve British input into the development of European Standards. The work of our European Rail Traffic Management System (ERTMS) Programme Team has recently been assessed and supported by the HSE and the Health and Safety Commission (HSC), and adopted by government. The SRA will now lead the continued development of this new system which the RSSB will continue to support. Our Safety Risk Model and derivative 'Risk Profile Bulletin' form the foundation of most Railway Safety Cases in the industry.

I will always remain very proud of what the dedicated teams of people in Railway Safety have achieved. We hand the work and many of those people on to the RSSB. Like the Chairman, I wish the RSSB every success in taking forward the work of improving the industry's safety culture and performance.



R I Muttram Chief Executive
31 March 2003

Key achievements

>Europe: our input into draft European railway standards and legislation has drawn praise for its 'very committed involvement' (pages 8–9).

>Competence: we have developed a Railway Group Standard for competence management and supported companies in developing their systems (page 10).

>National initiatives: the Railway Safety team has played a key role in facilitating initiatives ranging from level crossings and station safety to route crime and assaults (page 10).

>ERTMS: we have continued to lead pan-industry planning for trialling the European Rail Traffic Management System in the UK (page 10).

>Research and development: work commenced on a number of projects grouped into seven major areas, addressing a range of safety risks on the railway (page 11).

>Railway Group Standards: as well as our rolling programme of revisions, we have been managing the continuing integration of European standards into the UK system (page 12).

>System authorities: the two authorities now in operation have successfully demonstrated the potential of this form of industry partnership (page 13).

>Safety culture: we have helped many Railway Group members to assess this vital aspect of their company's operations, using the measurement tool we developed (page 14).

>Accident investigations: we have continued to lead the industry's investigations to major accidents and tracked progress on implementing formal inquiry recommendations (page 14).

>Risk-based decisions: our Safety Risk Model has enabled us to base decisions on a clearer understanding of risk, and to help Railway Group members to do the same (page 15).

>Safety management: more than 20 railway businesses have now adopted our model for competence in strategic safety management, with its supporting software (page 16).

>Safety information sharing: as well as our extensive safety information reports and bulletins, we have hosted a series of very successful industry conferences (pages 16–17).

Safety leadership

Railway Safety has had the role of leading, focusing and coordinating safety activities across the organisational boundaries.

Operating as an independent company, we have worked with every sector of the industry and with every relevant government and regulatory body continually to facilitate improvement in industry safety performance.

Strategy development

The rail industry's safety strategy has to be set in the context of UK and European safety regulation, Strategic Rail Authority (SRA) planning and the commercial environment of the railway. Establishing a strategy for the Railway Group as a whole has been an essential aspect of Railway Safety's role.

We have monitored all emerging legislation and regulation that might affect the operation and safety of the railway, and responded to all relevant opportunities for consultation. During 2002/03, we committed to developing a high-level safety strategy document for the industry.

There are two other key groups involved in rail safety strategy. The Safety Advisory Board (SAB), with broad representation from the industry, regulators and government, provides advice on strategic direction and safety priorities to Railway Safety. The National Safety Task Force, facilitated by Railway Safety, is an important cross-industry forum to determine how safety initiatives can best be collectively delivered.

The European agenda

Two major milestones reached during the last year emphasise the impact of European policy and legislation:

- > Regulations for high-speed railway interoperability came into force on 16 August 2002
- > High-speed Technical Specifications for Interoperability (TSIs) became law on 30 November 2002.

Work is ongoing in the Association Européenne pour l'Interopérabilité Ferroviaire (AEIF) to write the TSIs for conventional railways, and work has started to revise the high-speed TSIs.

The European Commission is putting increasing pressure on the AEIF to meet deadlines. TSIs for freight are due to be adopted in April 2004. The AEIF has already received the second mandate for writing TSIs, covering reduced personal mobility, safety in tunnels and air pollution (diesel).

British input into TSIs

Railway Safety experts have, at the request of our stakeholders, been coordinating the British input into drafting the TSIs. An AEIF working group Chairman recently reported, 'There was a very committed involvement, especially from the British railway and industry representatives'.

Railway Safety has established a process of mirror groups for British representatives to form a common position where possible, and disseminate information to the interested parties. In cooperation with the SRA, we sponsored the Conventional Interoperability Strategy Project, in which issues were prioritised by risk and impact, and a cost-benefit analysis was performed. This means that British experts will not only have a position to take, but also an economic justification for taking it.

The second railway package

Railway Safety facilitated a series of stakeholder interviews and focus groups to discuss the European Commission's second railway package, a railway safety directive, amendments to the interoperability directives and the establishment of a European Rail Agency amongst other measures. Issues raised and proposed solutions were fed into the Department for Transport's (DfT) consultation response and directly to the Commission.

It was anticipated that the new legislation would be adopted by the end of 2002 but, due to the large number of amendments proposed by Members of the European Parliament, the Parliament and Council were unable to reach a common position by that date. It is now expected to be adopted in late 2003.

SAMRAIL project

The Safety Management in Railways (SAMRAIL) project is aimed at developing a comprehensive and consistent safety management programme for European railways, to prepare for implementation of the proposed safety directive. It is funded by the European Union and

supported with resources from the European rail industry. Railway Safety has made a commitment to the project, which began in January 2003 and will run for about eighteen months.

Railway Group Safety Plan

Railway Safety has been responsible for publishing the annual Railway Group Safety Plan and for managing the consultative process by which it is prepared. We have also reviewed the individual safety plans of all Railway Group members, to ensure they will collectively support delivery of the industry's objectives.

The Plan continues to evolve. It now addresses issues of safety culture, professionalism, catastrophic risk, the road-rail interface, health and contractor management, among many others. It contains a specific commitment to zero tolerance of unsafe decisions, conditions and acts, promotes the concept of opportunity investment to improve safety, and commits all Railway Group members to continuously seek safer ways of operating.

The Plan for 2003/04 was published in January 2003 and will run until December 2004, to align with expected European reporting requirements.

Long-term strategy

Throughout the consultations for the current Plan, there was wide acceptance of the need for an additional, higher-level document to state the industry's common strategic vision of health and safety, backed by a long-term strategic plan that establishes direction and milestones for individual companies to follow. We envisage that this document will be developed in 2003/04, through industry consultation.

Safety leadership

Competence strategy

A competence management strategy is of paramount importance for the rail industry, to improve safety through enhanced performance of people and systems. *The Railway Group Safety Plan 2002/03* included a commitment (objective 5d) for Railway Group members to develop their competence management systems for front-line staff and managers, within a strategic framework provided by Railway Safety. *The Railway Group Safety Plan 2003/04* also addresses competence, in the context of total professionalism (objective 1d).

During the past year we have built on our initial work in several areas. A series of research projects began in October 2002 and seven projects are now under way, covering competence of supervisory staff, skills refreshment and training, and methodologies to assess safe working procedures.

We have developed a draft Railway Group Standard for competence management and have actively supported rail companies in developing their systems (including a competence management policy for our own personnel).

Following recommendations in Lord Cullen's report on the Ladbroke Grove accident, we have been working with the Health and Safety Executive (HSE) to develop a driver licensing strategy. A preliminary report was issued in November and a number of research projects are under way to review all aspects of licensing.

National initiatives

During the year, Railway Safety has consolidated its role as the facilitator of various cross-industry initiatives.

A new Level Crossing Safety Group has been established to raise awareness of level crossing issues. The group comprises representatives of Network Rail Limited, Railway Safety, the Automobile Association (AA), the British Transport Police (BTP), the HSE, the Association of Chief Police Officers (ACPO), the Driving Standards Agency (DSA) and other bodies.

In anticipation of the forthcoming report on Suicides and Open Verdicts on the Railway Network (SOVRN), a group is being established to focus on reducing the number of suicides and improving the way incidents are managed.

Meanwhile, the National Route Crime Group has prepared and published a business plan for 2003/04, which has been endorsed by the National Safety Task Force.

Railway Safety recently commissioned research into the problem of assaults on railway staff. As a result, work is now well advanced on creating a national group to focus on personal security issues for both staff and customers.

At a conference on station safety on 30 January 2003, representatives from across the industry discussed a range of issues including fire safety, crowd control and station design.

In the area of track safety, there continues to be an unacceptable level of fatalities among track workers despite the determined activities of the Track Safety Strategy Group and many others within the industry. Recognising its responsibilities under the risk minimisation initiative (RIMINI), Railway Safety has purchased a set of Track02, an automatic track warning system (ATWS), for use by the company that produces track safety videos. These are now being produced with the enhanced protection offered by the ATWS.

The 'Red' series of video programmes continues to be well received, as part of the industry's efforts to reduce risk associated with signals passed at danger (SPADs).

We have also put considerable effort into preparing for the expansion of the industry's Confidential Incident Reporting and Analysis System (CIRAS), to include the staff of all infrastructure contractors and sub-contractors. Tenders will be invited shortly for the new centre that will double the coverage of CIRAS.

Planning for ERTMS

Railway Safety has continued to provide leadership for pan-industry planning of the European Rail Traffic Management System (ERTMS) in the UK. The planning work has focused on developing proposals for testing and trialling ERTMS, which includes automatic train protection (ATP) and for gaining cross-industry consensus to the main programme concepts.

The ERTMS Programme Team (EPT) presented its report to the Health and Safety Commission (HSC) and the HSE in April 2002. The Government agreed that the HSC should undertake an independent review of the industry's proposals. The review, published in January 2003, examined industry's preferred options for implementation and also looked at current public attitudes on ATP and railway safety generally. The HSC congratulated the SRA and Railway Safety for their initiative in establishing the EPT, and for co-chairing the Project Board that oversees the team's work. An updated report is due to be published later this year, setting out the way forward for the next year of work on ERTMS. Leadership and momentum for ERTMS planning is provided by the cross-industry ERTMS Programme Board, which has been co-chaired by the Chief Executive of Railway Safety and the Technical Director of the SRA.

Strategy review

The Railway Safety Research Programme was set up in 2001 with government funding, managed by Railway Safety on behalf of the industry and its wider stakeholders.

Projects undertaken during the year range from the engineering of the wheel/rail interface, through human factors and operations research to policy issues such as the tolerability of risk. Details of current and planned projects have been available on Railway Safety's website and are transferring to the Rail Safety and Standards Board Limited (RSSB) website.

Clarifying the themes

Our management of the programme is continuously developing in the light of experience and consultation. For example, we have clarified the research themes by grouping the original 24 into seven major areas:

- > policy and risk
- > management
- > engineering
- > operations
- > train protection and control
- > public behaviour
- > human performance.

We have also clarified the context and drivers for the research themes, and the links and synergies between them. This should help stakeholders to understand what is happening now and where research might be done in the future.

The safety risks addressed by each theme and an outline of the types of research that should be carried out are detailed in the individually themed strategies. These were published separately in December 2002 on the website and issued to industry and wider stakeholders in a single document, the *Research Strategy Report 2002*, in February 2003.

Strategic review and development

We have introduced an annual process for developing the content of the research programme, including a strategic review during December to March. This is to ensure that research priorities are optimised to deliver maximum benefit to the rail industry.

We have also continued to consult widely to ensure that the views of railway businesses and other stakeholders are the key drivers both for strategic management of the programme and for individual research projects. Something new for 2002/03 was a concentrated effort to involve industry in the development of future plans for research. We held a series of one-day workshops during December and January, which enabled delegates to tell us their priority areas for research and gave useful pointers as to how we might improve the way we do things.

Technical input

Railway Safety has continued to develop as a centre of technical excellence, giving advice to industry on UK and European standards, audit and general technical issues. We have taken an active part in national technical committees and initiatives, and have led specific briefings and workshops in areas such as human factors and risk management.

Standards and systems

Railway Safety has developed and maintained the rail industry's safety standards (Railway Group Standards), approved codes of practice and guidance notes.

We have also assessed the Safety Cases of Railway Group members and audited their compliance, managed the accreditation process for vehicle acceptance and led formal inquiries into major incidents.

Railway Group Standards

Railway Safety has been responsible for managing Railway Group Standards which set out minimum requirements to ensure system safety and safe interworking on the UK mainline railway.

An important aspect of this role is to manage the continuing integration of European legislation into the UK's standards, to ensure that the UK railway industry is not faced with any overlapping or conflicting standards. A complete suite of compatible national safety standards will be required for the foreseeable future.

We have maintained a rolling programme of revisions and additions to the Railway Group Standards to meet changing needs in the industry, based on full consultation with all interested parties. During 2002/03 we issued 55 new standards, revised 42 and withdrew 30.

We have also carried out an annual programme of evaluations of the effectiveness of Railway Group Standards in controlling risks, as well as special investigations on specific topics. This role is expected to carry forward into the RSSB.

Agreed non-compliances

Railway Safety has also been responsible for managing agreed non-compliances (whether temporary or permanent) with specific requirements of Railway Group Standards. These are allowed only if applicants can demonstrate that they are necessary or unavoidable and that alternative controls are in place so that safety is not compromised. During 2002/03, we handled a total of 320 requests for regularisation of non-compliance, of which 217 were approved. Those not approved were referred back to the applicant so that they could make arrangements to meet the standard.

The new Rule Book

The Rule Book project that Railway Safety has been taking forward is on target for a full issue of the 50 new modules in June 2003. This new modular Rule Book will replace the existing master Rule Book and all the personalised Rule Books. The modules are structured around activities as opposed to specific job functions. This structure is designed to be suitable for the privatised structure of the industry where there is no longer a consistency in specific job roles.

All of the rules have been redrafted using the principles of plain English and all modules will have received the Plain English Campaign's Crystal Mark before they are issued. The basic principle behind this major redrafting of the Rule Book is that there would be no significant rule change introduced at the same time. However, the work has addressed identified conflicts and removed ambiguity where it has been discovered. Another basic principle that has been followed is that each rule is only written once and is therefore only located in one place. This was one of the recommendations arising from the Public Inquiries into the major accidents at Southall and Ladbroke Grove.

The new modular Rule Book will be implemented on 6 December 2003.

System authorities

There are two legally constituted system authorities, the Wheel/Rail Interface System Authority (WRISA) and the Train Protection and Warning System – System Authority (TPWS SA). Both have been operating as independent, not-for-profit companies since May 2001, with Railway Safety providing administration, procurement and project management support.

The role of the WRISA and the TPWS SA is to address system issues and identify solutions that are in the best interest of the railway industry as a whole. The company directors represent the different industry groups and the railway regulators attend the meetings as observers.

The WRISA, in partnership with other industry groups, has procured research studies into the track and vehicle parameters that influence the development of rolling contact fatigue. The WRISA has also completed the first stage in determining what industry stakeholders would require from a vehicle/track interaction model.

The TPWS SA has addressed the cross-industry technical issues of implementing the Train Protection and Warning System (TPWS) onto the railway system. As well as the technical sub-group for the TPWS, it has formed a similar group to review the efficiency of the Automatic Warning System (AWS).

Safety assurance

Railway Safety has been responsible for assessing the Railway Safety Cases (RSCs) of mainline railway companies and making recommendations on their acceptability to Network Rail or the HSE (depending on the scope of operation). This activity ceased on 31 March 2003, with changes in the regulations governing RSCs.

During 2002/03, we assessed seven new RSCs, 22 revised RSCs (including Railtrack's) and 10 material revisions to existing RSCs. In every case, we successfully met or improved on planned timescales. We also undertook a number of independent assessments of RSCs for companies operating outside the mainline railway network.

Compliance auditing

We have also undertaken the annual audit of rail companies' compliance with their RSCs and with Railway Group Standards. As with RSC assessment, this activity ceased on 31 March 2003 with the introduction of new regulations.

During 2002/03, we carried out RSC compliance audits on all the duty holders operating on Railtrack-controlled infrastructure, including Railtrack itself. We have also promoted a standardised format for action plans to address issues raised during audit. The format focuses on systemic improvement and ongoing monitoring, helping companies to develop lasting solutions to achieve compliance.

Standards and systems

Safety culture

We have provided safety culture assessment as a service for Railway Group members, using a measurement tool developed by Railway Safety.

Vehicle acceptance accreditation

Railway Safety has managed the accreditation process for organisations that carry out rail vehicle engineering certification and acceptance. We continued to develop and improve this process during 2002/03 and have been examining the potential for extending it into areas such as accreditation of wheelset suppliers.

Details of all vehicle acceptance and conformance certification bodies, together with their signatories, have been provided on the Railway Safety website and are transferring to the RSSB website.

Investigations and inquiries

Railway Safety developed the industry's standards for investigating incidents and accidents, and has led the industry's response to specific events.

Most major accidents are subject to a formal inquiry by an industry expert panel under independent chairmanship. Railway Safety has led the process of assembling the panel and also tracked progress on implementing the inquiry's recommendations, to the point of their effective closure.

This process was endorsed by Lord Cullen in Part II of his report into the Ladbroke Grove accident in 1999, in which he also recommended the formation of the Rail Accident Investigation Branch (RAIB). However, in the case of a public inquiry such as Ladbroke Grove, while Railway Safety has been responsible for leading and coordinating the industry's initial response to the recommendations, formal tracking of remedial actions is the responsibility of the HSE.

Potters Bar investigation

We appointed an independent panel to conduct the rail industry's formal inquiry into the derailment at Potters Bar in May 2002. This is quite separate from the HSE and police investigations, and its sole purpose is to reveal the safety lessons so that improvements can be made. The panel, supported by industry parties, has diligently pursued its inquiry and issued a progress report in December 2002. The intention is to produce a final report by May 2003, but this depends on the progress of the ongoing technical investigation relating to the state of the points. A summary of the inquiry's findings is expected to be published on the RSSB website.

Information and guidance

Railway Safety has supported the industry in achieving continuous safety improvement by providing risk analyses and models, management tools, expert advice and comprehensive information.

To encourage the widespread sharing of knowledge and best practice, we have promoted and organised safety conferences and forums drawing delegates from throughout the industry.

Risk-based decision making

During 2002/03 we developed our ability to base decisions on a sure understanding of the risk associated with railway activities. This has fed through to the advice and guidance we have provided to members of the Railway Group, for use in their own decision making.

Risk-based decision making has its foundation in our Safety Risk Model. We have developed this to version three, reflecting the latest data on reported incidents and improved knowledge on accident survivability. The most significant advance was the incorporation of the safety benefits achieved by the TPWS. The risk model can now estimate risk with or without the TPWS. The prediction from our modelling is that the TPWS will reduce the risk associated with SPADs by 68%.

Risk assessment and control

Understanding the risk profile has been key to many of our processes. For example, it has enabled us to ensure that Railway Group Standards are written and maintained to control risk in a proportionate manner.

The risk model has also been central to the way we have conducted risk assessments on specific issues. In 2002/03 these included the use of the driver's reminder appliance, risk at level crossings and other road-rail interfaces, and the removal of fire brigade cover during industrial action. The model has also underpinned our role in checking risk assessments made in the RSCs submitted to Her Majesty's Railway Inspectorate (HMRI). During 2002/03 we issued a guidance note on how such assessments should be made.

Monitoring change

Evidence of long-term change is available directly from the risk model, as it is updated each year to reflect the latest safety intelligence. In the short term there are insufficient accidents to allow trend analysis, so change is monitored through the precursors. A group of 20 precursors is monitored on a four-week cycle, with each precursor weighted according to its profile in the risk model.

Information and guidance

Safety management packages

During the year under review, more than twenty railway businesses have agreed to use the competence in strategic safety management model and its supporting software. First released during 2001/02, the package enables a company's senior team to review their own performance and benchmark it against industry peers. We have fed the outputs of this work, supported by independent mentors, into further development of the model and software to enable companies to develop smarter safety improvement objectives.

Good practice guides

In addition to updating the good practice guide concerned with competence in strategic safety management, we added a new guide to the series. This deals with the investigation of SPADs, supporting the industry's initiatives to improve still further the quality of these investigations.

Website and help desk

Railway Safety's website has continued to provide a focal point for safety information on the railway. During 2002/03 we added a section dedicated to the safety research programme. This outlines the research strategy and themes, the outputs of research projects and suggestions for how people can get involved.

Another significant development has been the extension, in July 2002, of the section dealing with formal inquiries. This provides ready access to inquiry reports and summary recommendations, demonstrating the improved openness and transparency in the inquiry process.

We have continued to provide information and advice through our dedicated enquiry desk. Receiving an average of around 500 calls a month, the enquiry desk has also enabled us to identify emerging needs and take action to meet them.

New intranet

Of less general interest but important for the organisation is the new intranet we launched in December 2002. Called Insight, the intranet is designed to help streamline business processes and ensure more effective internal communications.

Publications and briefings

Our *Information Bulletin*, published monthly, has provided general coverage of important developments, while the quarterly *Research Programme Bulletin* has provided a forum for reporting results and consulting with the industry on the management of the research programme.

We have continued to provide briefings for stakeholders and the media on key publications, as well as special briefings on important developments.

Safety reports

As well as the comprehensive annual *Safety Performance Report 2001/02*, we published three quarterly *Safety Performance Reports* in 2002/03. The full *Safety Performance Report 2002/03* is due for publication in June. We also issued two special reports on SPADs, concerning category B SPADs and SPADs at shunting signals.

In July 2002 we published a special report entitled *SPAD Investigations* to provide guidance on conducting investigations. The report highlights common weaknesses, recommends good practice and provides guidance on using the SPAD risk ranking process.

Safety conferences

Industry conferences hosted by Railway Safety have proved a very effective way for the industry to share experience and information. The conference on station safety (see National initiatives, page 10) in Birmingham was attended by more than 85 delegates.

In partnership with the Advisory Group for Rail Research and Innovation (AGRRI), we staged a conference in London on 30 October 2002 dealing with human factors in the rail industry. The event included presentations from leading human factors research sponsors.

Delegates also took part in an interactive session to highlight new areas of human factors research in the rail sector. Attended by about 90 delegates from various backgrounds, the conference is the first in a series of planned AGRRI events.

On 19 June 2002, we hosted a conference in London on the Operation Lifesaver initiative. This is a public awareness programme that started in 1972 in the USA and now extends to Canada, dedicated to eliminating fatal accidents on railway property. More than 100 representatives from across the UK heard how Operation Lifesaver successfully reduces the numbers of people killed each year at level crossings and on the line of route, through its work with schools, local communities and other partnerships.

The prestigious World Congress on Railway Research (WCRR) has a UK venue this year and is organised by a committee chaired by Railway Safety. The event is due to take place in Edinburgh in September 2003 and will provide a forum for the sharing of railway innovation and research covering operational, environmental and safety management as well as more traditional engineering issues.

The 8th International Level Crossing Symposium will be held in Sheffield in April 2004 and will provide a platform from which to discuss advances in level crossing technology and operation, aiming to promote best practice and to share international dialogue on level crossing issues. The symposium boasts a variety of speakers who will provide expert views on the key issues surrounding risk management at level crossings today.

Safety performance overview

The current overall risk on the railway is now lower than it was in 2001/02, but continued effort will be required to ensure the industry meets its long-term targets.

The overall picture

During 2002/03, up to the end of the third quarter, a total of 219 people died on the railway or in railway-related work. This total comprises 13 passengers, four members of the workforce, 38 members of the public (of whom 31 were trespassers) and 164 suicides and suspected suicides. Six of the 13 passengers died in the Potters Bar train accident, along with one other member of the public.

Long-term risk management

When the number of fatalities is combined with the number of major and minor injuries, the current overall risk on the railway is lower than the previous year. However, there is some way to go before we could be confident that the Railway Group Safety Plan targets for the end of 2009 (objectives 1a and 1b) are likely to be met, and continued effort will be required.

Catastrophic risk

Because major accidents are rare, we have based our view of safety on the railway not only on observed accidents but also on the potential for incidents to cause harm. Our train accident Precursor Indicator Model (PIM) is the principal means of identifying whether underlying risk is increasing or decreasing.

The PIM currently indicates an increase in underlying risk of 7% over last year, for the period from April 2002 to January 2003. This is in contrast to observed decreases in some precursors, such as SPADs, and in actual train accidents. The increase in risk is principally due to increases in level crossing misuse and environmental factors, both of which are not in the direct control of the railway.

Passenger fatalities and injuries increased during 2002/03, partly as a result of the Potters Bar accident, but also because of a higher number of individual fatalities involving slips, trips or falls, and risk-incurring behaviour such as leaning out of train windows.

Public safety

Public risk shows a decrease over previous years. This is mainly due to a decrease in the number of trespasser fatalities, which form the largest source of public fatality.

Although the Railway Group does not have full control over trespass, the general improvement since the middle of the last decade indicates that measures to prevent trespasser fatalities have been beneficial. It is important that the industry identifies and reinforces the most effective initiatives, and looks for ways to make further improvements.

Workforce safety

It is of great concern to us that there has been no improvement in the area of workforce safety. In a year when the Railway Group Safety Plan objective was zero fatalities, the total of five annual workforce fatalities is completely unacceptable. Furthermore, this unacceptable performance is also seen in the rate of workforce major injury, which this year reached a new high. The railway industry as a whole cannot allow this situation to continue – action must be taken.

This overview is based on performance figures up to 4 January 2003, the end of the third quarter, as the full year's performance figures were not available at the time of preparing this report. A full *Safety Performance Report* for 2002/03 will be published in June 2003 and made available on the RSSB website: www.rssb.co.uk

Corporate management and finance

Railway Safety
has operated as an
independent company
within Railtrack Group
and latterly, Network Rail
Group, financed by the
rail industry and the SRA.

Our corporate task has
been to improve safety
performance across the
national rail network.

Corporate governance

Railway Safety was established on 31 December 2000 as an independent, not-for-profit subsidiary of Railtrack Group PLC. It was created from the former Railtrack Safety & Standards Directorate on the recommendation of the Department of the Environment, Transport and the Regions (DETR) – now known as the DfT – to create a more independent body, pending the outcome of Lord Cullen's inquiry into the rail industry's safety structure.

The Listing Rules of the United Kingdom Listing Authority require companies to comply with the Combined Code on the Principles of Good Governance and Code of Best Practice, which has been derived from the Cadbury Code of Best Practice and the Hampel Committee's report, January 1998. Railway Safety has operated to the highest standards of this Code.

The company's directors have undertaken a corporate governance exercise each year. There has been a full separation of function between the Chairman and Chief Executive, and the company has had its own board of directors with a majority of non-executive directors. Our directors have comprised a balanced representation of rail industry professionals and safety experts from outside the industry. Five are entirely independent of UK railway businesses, including a former President of the Royal Academy of Engineering, a former Chairman of the HSC and the Director of Safety Regulation from the Civil Aviation Authority (CAA).

Corporate finance

Railway Safety's funding has been agreed by the Office of the Rail Regulator (ORR) and has flowed from the rail industry and the SRA.

As a part of the establishment of the RSSB, we have selected and implemented Sage Line 200 as our new accounting software.

Unaudited results indicate that our core operations will be slightly under budget for the year ended 31 March 2003, although this is before charging the costs of the transition to the RSSB. The research and development programme will have an under-spend of approximately £5 million for the same period.



The Board of Directors

Professor Tom Cox ⁶

CBE, BSc, PhD, CPsychol, FBPsS, AcSS, FFOM (Hon) (Dublin),
FErgS (Hon), FRSH, FRSA
Independent Non-executive Director

Sir David Davies ⁴

CBE, FEng, FRS
Independent Non-executive Chairman

Sir Frank Davies ⁵

CBE, OstJ
Independent Non-executive Director,
Deputy Chairman

Alison Forster ⁷

BSc (Econ)
Non-executive Director

Rod Muttram ¹

BSc, CEng, FIEE, FIRSE, MCIT, MILT, MCMI, FEng
Chief Executive

Aidan Nelson ²

BSc, FIRO
Director Policy and Standards

Dr John Penney ⁹

BSc(Eng), PhD, CEng, FIEE, FIRSE, MIM
Non-executive Director

Richard Profit ¹⁰

OBE, AFC, FRAeS
Independent Non-executive Director

Hans Ring ⁸

MSc, CEng
Independent Non-executive Director

Dr Matt Walter ³

BSc (Hons) Eng, PhD, CEng, MIOSH, MCIT
Director Safety Management Systems

‘Railway Safety has had a challenging time, creating an independent body to lead and coordinate safety issues across the Railway Group. We hand over the task to the RSSB, secure in the knowledge that its staff (based primarily upon that of Railway Safety) is ideally placed to take the role forward. All the board send our best wishes to the RSSB as a new industry-owned body in continuing the good work.’

Sir David Davies Chairman

Terms and abbreviations

AA	Automobile Association
ACPO	Association of Chief Police Officers
AEIF	Association Européenne pour l'Interopérabilité Ferroviaire (European Association for Railway Interoperability)
AGRRI	Advisory Group for Rail Research and Innovation
ATP	Automatic train protection
ATWS	Automatic track warning system
AWS	Automatic Warning System
BTP	British Transport Police
CAA	Civil Aviation Authority
CIRAS	Confidential Incident Reporting and Analysis System
DETR	Department of the Environment, Transport and the Regions
DfT	Department for Transport
DSA	Driving Standards Agency
EPT	ERTMS Programme Team
ERTMS	European Rail Traffic Management System
HMRI	Her Majesty's Railway Inspectorate
HSC	Health and Safety Commission
HSE	Health and Safety Executive
Network Rail Limited	Network Rail Limited is the parent company of the Network Rail Group
Network Rail Infrastructure Limited	Network Rail Infrastructure Limited is a subsidiary of Network Rail Limited
ORR	Office of the Rail Regulator
PIM	Precursor Indicator Model
Railway Group	Network Rail Limited, the RSSB and the train and station operators who hold Railway Safety Cases for operation on or related to infrastructure controlled by Network Rail Limited
RAIB	Rail Accident Investigation Branch
RIMINI	Risk minimisation initiative
RISB	Rail Industry Safety Body
RSC	Railway Safety Case
RSSB	Rail Safety and Standards Board Limited
SAB	Safety Advisory Board
SAMRAIL	Safety Management in Railways
SOVRN	Suicides and Open Verdicts on the Railway Network
SPAD	Signal passed at danger
SRA	Strategic Rail Authority
TPWS	Train Protection and Warning System
TPWS SA	Train Protection and Warning System – System Authority
TSIs	Technical Specifications for Interoperability
WCRR	World Congress on Railway Research
WRISA	Wheel/Rail Interface System Authority