



Safety Information Strategy 2006-2007

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The report may be downloaded at no cost from the RSSB website www.rssb.co.uk.

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1 Introduction

This document presents the Rail Safety and Standards Board's (RSSB's) strategy for the management of safety information in 2006-2007. The document arises from Objective 4 of the RSSB Company Objectives 2005/06, which related to information management and required the identification of:

- How the company's role in safety information management and reporting is to be taken forward to support Members, meeting the needs of the Office of Rail Regulation (ORR) and the Rail Accident Investigation Branch (RAIB) nationally, and to potentially satisfy the reporting requirements to be developed by the European Rail Agency (ERA) and set for the member states by the European Parliament.
- The ease and efficiency with which RSSB Member organisations can satisfy statutory reporting requirements incumbent on them.
- The arrangements by which data quality should be managed.
- Opportunities for RSSB and RSSB Member organisations to eliminate databases parallel to the Safety Management and Information System (SMIS).

In addition the strategy will respond to the wider requirements of the industry.

The strategy is published electronically on the RSSB website www.rssb.co.uk.

2 Overall aim of the Safety Information Strategy

The RSSB Safety Information Strategy (SIS) addresses four component areas, as follows:

- Safety data collection and provision
- Safety performance reporting
- The sharing and exchange of safety intelligence
- Improvements to data quality and quantity

In addressing each of these areas, the strategy is designed to be:

- Comprehensive, so as to address all necessary requirements.
- Simple, so as to minimise additional work or duplication of effort amongst RSSB Members.
- Flexible, so that it can respond to developments made in a period of change.
- Proactive, so that it can challenge any identified conflicts in reporting requirements.

3 A review of the context in which the strategy is set

The SIS is set in the context of a number of existing and ongoing documents, activities and organisations. These are described in the following sections.

3.1 RSSB's Business Plan 2006-2009

RSSB's 3-year Business Plan covers the period from 1 April 2006 to 31 March 2009 during which RSSB will be funded by its members. The plan notes that, working with our industry partners RSSB's purpose is to

- Continuously improve the level of safety in the rail industry.
- Drive out unnecessary cost.
- Improve business performance.

The plan sets out RSSB's core activities, describes the current situation of each, and specifies what RSSB will do in each area over the next three years.

3.2 RSSB Company Objectives 2006-2007

The RSSB Company Objectives for 2006 to 2007 have been extracted and developed from the commitments set out in the Business Plan and make up a tangible set of tasks with their key deliverables. The tasks and their deliverables will be overseen by the Executive Directors and the Head of the Chief Executive Office, with matters being referred to the Board of RSSB for approval or endorsement as necessary.

3.3 The Railway Strategic Safety Plan (SSP)

The SSP is a joint statement by the companies responsible for Britain's mainline railway, and sets out an industry-agreed approach to managing safety-related activities during the period of its application. It commits the industry to maintaining the level of safety performance in areas where it is managed well, and delivering continuous improvement in priority risk areas, wherever it is reasonably practicable to do so.

3.4 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995

RIDDOR 95 are the regulations relating to the Reporting of Injuries, Diseases and Dangerous Occurrences. The regulations are enforced by the Health and Safety Executive (HSE). The Health and Safety Commission (HSC) is currently in the process of reviewing RIDDOR 95 and have produced a discussion document on which RSSB has commented.

3.5 Office of Rail Regulation (ORR)

Up until 3 April 2006, all safety-related incidents that were reportable under RIDDOR 95 were submitted to Her Majesty's Railway Inspectorate (HMRI). On that date, the HMRI office transferred to the ORR, and RIDDOR-reportable incidents are now submitted to ORR's HMRI Accident Section.

3.6 Rail Accident Investigation Branch (RAIB)

RAIB has been operational since 17 October 2005 with reporting requirements set out in Statutory Instrument (SI) No. 1992 of 2005 *Railways (Accident Investigation and Reporting)*

Regulations 2005, and its associated Guidance. The RAIB reporting requirements differ from those set by RIDDOR, principally because they also require the reporting of events with the potential to cause harm and not just those triggering defined thresholds.

3.7 Safety Management Information System (SMIS)

The industry's main means of recording information on safety-related events is SMIS. SMIS was first implemented in 1997 as a successor to a system (BRIMS) developed by British Rail. Its scope of reporting is derived from the requirements of RIDDOR 95, together with other specified industry data needs. Since its initial implementation, the SMIS system has undergone several updates and improvements to its reporting capability. The current operational version is SMIS 6, with work overseen by the SMIS Programme Board underway to implement a further SMIS 7 release later in 2006.

3.8 Railway Safety Directive 2004/49/EC of the European Parliament and Council

The purpose of this Directive is to ensure the development and improvement of safety on the Community's railways and improved access to the market for rail transport services by:

- harmonising the regulatory structure in the Member States
- defining responsibilities between the actors
- developing common safety indicators, common safety targets and common safety methods with a view to greater harmonisation of national rules
- requiring the establishment, in every Member State, of a safety authority and an accident and incident investigating body
- defining common principles for the management, regulation and supervision of railway safety

The Directive applies to the railway system in the Member States, which may be broken down into subsystems for structural and operational areas. It covers safety requirements on the system as a whole, including the safe management of infrastructure and of traffic operation and the interaction between railway undertakings and infrastructure managers.

In Britain, the requirements of the Directive are laid out in ***The Railways and Other Guided Transport Systems (Safety) Regulations 2006*** (SI 2006 No. 599). Supporting guidance has been published by ORR.

3.9 European Rail Agency (ERA)

The Directive (881/2004) establishing ERA describes the tasks of the Agency including the derivation of Common Safety Targets (CST), Indicators (CSI) and Methods (CSM). It is against this background that future mandatory European safety reporting requirements will be defined.

3.10 DfT high level output specifications

The Railways Act 2005 requires the Secretary of State for Transport (for England and Wales) and Scottish Ministers (for Scotland) to present to ORR a specification of the high level outputs (HLOS) they want the railway to provide, and a statement of funds available (SoFA). The ORR must then determine the outputs that the industry must deliver to achieve the

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HLOS, the cost of delivering them in the most efficient way, and the implications for the charges payable by train operators to Network Rail for using the railway network. The HLOS will be published in July 2007 to cover the period 2009 to 2014 together with a high level strategy for the issues that cannot be included in the HLOS. The HLOS will cover safety, reliability and capacity.

4 Description of the strategy across its four component areas

Taking into account the information set out in Section 3, the strategy comprises the following strategy aims (SA), organised across its four component areas.

4.1 Component 1: safety data collection and provision

SA 1. SMIS will allow industry parties to satisfy the statutory reporting requirements of all relevant industry bodies.

SMIS is set up so that each safety-related event is automatically assessed to see whether it is RIDDOR reportable. SMIS then allows the user to produce the required statutory report for submission to ORR. SMIS 6 also requires the user to identify whether the event is reportable to RAIB. This is currently not automatic, but RSSB have provided guidance for users in making this assessment, and the subsequent generation of statutory reports for electronic submission. The same user-decision process will remain part of the SMIS 7 upgrade.

The strategy will be to ensure that reporting requirements remain proportionate and that SMIS continues to enable users to generate statutory reporting automatically with the minimum administrative burden. In the case that changes to the automation process are needed following the review of RIDDOR 95, SMIS will require updating; this is unlikely to require major enhancement of the system. In the event that SMIS cannot be updated before the requirements come into force, RSSB will provide written guidance for the interim period.

The strategy will be to ensure that SMIS and its supporting documentation provide sufficient guidance to enable users to identify correctly and consistently those events that should be reported to RAIB. This is of fundamental importance given that certain RAIB reporting requirements concern the potential risk from an event, the assessment of which may have a significant subjective dimension.

Any other emerging external reporting requirements will be assessed for their impact on SMIS reporting and upgrades of the system as set out in the RSSB Business Plan.

SA 2. On behalf of its members, RSSB will provide data from SMIS to ORR, to assist in the fulfilment of the requirements relating to CSIs, as specified in Annex 1 of the European Safety Directive.

Within Great Britain, the implementation of the European Safety Directive is embodied by The Railways and Other Guided Transport Systems (Safety) Regulations 2006, which came into force on 10 April 2006. Where the regulations relate to the annual provision of data for the production of annual safety reports (Regulation 20 (1) (c)), the strategy will be for RSSB to undertake SMIS data extraction and provide company-specific data report for review by the industry party concerned prior to its submission to the National Safety Authority (ie ORR)

as part of their annual safety report. RSSB will, in addition, send a system level data report to ORR once the duty-holder review period has passed. RSSB's role in performing the data extraction will avoid duplication of effort within the industry.

Additionally, interim data reports will also be presented to Members on a quarterly basis so that they can track progress of the CSIs on an ongoing footing, to enable any emerging trends to be observed.

Duty-holders retain the responsibility to respond to all other parts of Regulation 20. However, RSSB will provide guidance material for duty holders on what other information should be contained within the annual safety report to fulfil these requirements.

4.2 Component 2: safety performance reporting

SA 3. Safety performance reports on key industry areas will be designed to add value.

In addition to enabling current and future statutory reporting obligations to be satisfied, RSSB also produce a number of safety-related reports for the industry and wider stakeholder groups. The analysis and information contained within these reports is objective and mainly derived from SMIS, but supplemented by other industry sources. The topics for analysis are driven by both the industry's risk profile and strategic safety planning processes.

Safety reporting during 2006 will be developed to enable all parties to monitor their progress and, in aggregate, that of the industry to address the intent of the 2006 SSP. A strategy for delivering safety performance reports that truly meet the industry's forward requirements will be developed. This will cover frequency of reporting of each topic area, identification of the most useful report format, exploration of how best to target the industry with the key information from the reports, and how to obtain and respond to feedback.

In turn safety reporting against performance to date and that emerging in 2006 informs the development of the next SSP for 2007-2009

SA 4. The safety profile of the mainline railway will be regularly reviewed and updated, based on the Safety Risk Model (SRM). SRM outputs will be made as widely available as possible.

To support the railway's efforts in this area, RSSB has developed a comprehensive SRM. This is a mathematical representation of more than 120 hazardous events that could lead directly to injury or fatality on the railway. The causes and consequences of each are modelled in detail, considering the railway as a whole, rather than concentrating on a particular route or operator. This provides the context for each company's management of safety, acting as a guide to the overall risk situation on the network.

The SRM has been designed to take full account both of the high-frequency, low-consequence events, and the low-frequency, high-consequence events. The SRM was developed using recognised modelling techniques, together with available information, informed by expert judgement. This reduces the problems that can arise with using examples from recent history, which may be insufficiently representative of the underlying level of risk.

Version 4 of the SRM was issued in January 2005, and Version 5 is currently in production and due for issue in summer 2006. In line with the Business Case, the aim of each update is

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to enhance risk modelling and risk assessment capability, so that RSSB is positioned internally and externally as a recognised independent centre of excellence. The SRM will be used to undertake risk analyses at an industry-wide level, with specific, lower-level, analyses being provided to support R&D, Standards, and other core activity areas.

SA 5. RSSB's precursor indicator model (PIM) will be developed and promulgated as a key measure of train accident risk.

Within the PIM, a train accident is defined as one of the following: train derailment, train collision, train striking buffer stops, train fire and train striking road vehicle at a level crossing. The PIM provides a measure of the underlying risk from train accidents by tracking changes in the occurrence of accident precursors. It was first developed in 1999, and has since been subject to a series of modelling improvements, including realignment with updated risk information from version 4 of the Safety Risk Model.

As with all models, the PIM can be only as good as the data on which it is based. In recognition of this, a number of modelling improvements have been implemented, to make the indicator more robust. This process will continue, at the same time as seeking to improve data quality (see section 4.3), so that the indicator continues to provide the best measure of changing levels of train accident risk as possible.

SA 6. RSSB will seek to develop new methods of analysing the underlying risk from low-frequency events.

The PIM approach will be extended during 2006 to include indicators relating to other risk areas, such as workforce risk, to enable the feasibility of developing a PIM-based approach to sources of risk other than train accidents to be assessed. This will allow greater proactivity in the safety management of such areas.

4.3 Component 3: safety intelligence sharing and exchange

SA 7. RSSB will enable its Members to have greater access to the safety intelligence that it holds.

Currently, all RSSB safety performance reports are freely downloadable from the RSSB website www.rssb.co.uk. Many of the analyses in these reports are based on RSSB validated databases that are derived from SMIS data. A project is now underway to enable this underlying data to also be downloadable (via either an extranet, or a password-protected internet access) by Members. This will enable Members to access and analyse the same data RSSB uses. It is foreseen that summary data used for specific charts and tables will be accessible, as will information on the actual events underlying the summarised data. Members will also be able to provide feedback on the reports and data via the same link. In addition, under SMIS 7, data will also be provided back into the SMIS system, as discussed under SA 11.

Also in this area, RSSB are examining the possibility of allowing greater access to the information contained in the Safety Intelligence Centre. The Centre is a searchable database of text-based documents that allows users to enter key words and phrases of interest, bringing back paragraphs excerpts, ordered in terms of relevance to the search criteria. The database currently contains National Control Centre (NCC) logs dating from the

mid-1990s and Formal Investigation and Inquiry (FI) reports dating from 1998, supplemented by other safety-related documents such as RSSB Safety Performance Reports. Access to the Centre is currently only available to RSSB staff via the intranet; wider access requires Data Protection Act (DPA) issues to be identified and addressed. These issues are currently being explored.

SA 8. RSSB will promote opportunities for Members to review and discuss the findings of its safety performance reports and data analysis.

RSSB will supplement documentary reporting of safety performance with workshop-based presentations in which feedback from the industry on key issues will be solicited.

In addition to the output from the suite of safety performance reports, the information that is supplied to National Initiative (NI) working groups (eg National SPAD Focus Group) will be regularly reviewed and developed to ensure that it adds as much value as possible to NI participants.

SA 9. RSSB will seek to build relationships with other relevant parties involved in the development and provision of safety information.

As far as the development of the European CSIs, CSTs and CSMs is concerned, the strategy is to establish and maintain formal and informal channels of communication between all UK representatives on relevant working groups so that any deviation that is likely to cause information management issues are identified and addressed promptly. This is particularly important with regard to CSIs as the ERA working group is composed solely of National Safety Authority representatives. An informal group has been established to this effect, and meets regularly.

RSSB will establish and maintain formal and informal links with other individuals and parties involved in the development of CSIs, CSTs and CSMs, seeking to ensure that such indicators, targets and methods are proportionate, congruent with UK strategy and data collection capability.

Also on the European level, RSSB will seek to get more value from the data collected by the Union Internationale de Chemins de Fer (UIC). RSSB already has representation on the Safety Platform, which acts as an advisory body to the UIC, and its two subgroups, and the UIC Safety Performance Group. In addition, RSSB is leading a recently-established working group of the Safety Performance Group, which is to review the data currently held within the UIC safety database, and assess how it could be used and developed.

On a national level, RSSB is co-operating in DfT work to develop HLOS. The HLOS will be based on the DfT's Network Modelling Framework (NMF), which aims to bring together and establish links between industry models related to demand, train operating costs, infrastructure costs, performance and safety. Much is being done by different parts of the industry to develop the NMF. The DfT requested RSSB to initiate a research project to assess the feasibility of modelling the safety implications of changes to the infrastructure and operational performance as required by the DfT NMF.

4.4 Component 4: data quality and quantity

SA 10. The quality and quantity of the data used in company safety performance reporting will be assessed and RSSB will work with Members to implement improvements which reduce the administrative burden of SMIS without compromising the collection of necessary data.

The majority of company safety performance analyses rely on industry-supplied data from SMIS. In some cases this is supplemented by data from other sources. It is known that the level of data quality is not consistent across the range of different safety-related events that are reported although, up to now, no advanced attempt has been made to gauge the data quality of each type of event. Having such information would allow the company to identify possible means of improving data quality, and thus improving the body of analysis that is provided to the industry. In undertaking this analysis it is important that the quantity of data collected and entered into SMIS is also addressed in order that unnecessary data sets are eliminated and any unnecessary administrative burden associated with SMIS removed.

SA 11. Processes for facilitating the update of SMIS information will be implemented and monitored.

In the process of producing its own validated data sources, RSSB may identify occasions when SMIS does not contain the most up-to-date and accurate information on a safety-related event. For example, the outcome of a formal investigation or inquiry (FI) may reveal something that was not known to the original SMIS inputter. RSSB is initiating an FI feedback process that alerts the SMIS event owner to any data differences, which will facilitate the timely update of SMIS records. The general concept of the process has been agreed by the SMIS User Group, and will be monitored for its effectiveness during 2006.

Only the event owner can change a record, but as part of the SMIS 7 upgrade the system will have extra fields added so that RSSB can record additional information next to the existing information, including data on precursors, which might be instigated by information from other sources, such as Coroner's reports, BTP information, or direct contact with Members. These RSSB-specific fields will also be visible to SMIS users. This will facilitate the accuracy of analyses based on SMIS data, and will help rationalise the information stored in RSSB's validated databases with that stored in SMIS.

5 Concluding remarks

The strategy is designed to be sufficiently comprehensive, simple, flexible and proactive, so as to fulfil the needs of the industry in a period of change.

The strategy addresses the requirements of a cross-section of industry documents, legislation, activities and organisations, including RIDDOR, RAIB, ORR, ERA, the European Railway Safety Directive and the Railway Strategic Safety Plan.

The strategy is limited to those safety-related aspects that affect RSSB and its members as a whole. Issues that are outside this remit, but that may affect individual industry members, are not covered by the strategy.