Guidance and examples of good practices in accident investigation in Britain’s railway industry
About this guidance

The guidance covers the key aspects of investigation, but also wider important issues of accident management.

This document is the first of three guidance documents which aim to assist organisations in achieving a consistently high level of accident investigation. The guidance was originally issued in March 2011 and has now been updated.

In support of this updated guidance is a new digital training programme for use by trainers in a classroom environment or for individual use. Use of this programme across the industry should assist in raising the standard of accident investigation. It is available via the RSSB website or on memory sticks provided by RSSB.

A new section (4.2) on proportionality has been introduced which should greatly assist in the early decision making on the scale of an investigation. In addition, references to legislation, linked documents and systems and industry safety initiatives have also been brought up to date.

The audiences for each part of the guidance are as follows:

- **Part 1 The role of the senior manager** provides senior managers with the case for good accident investigation
- **Part 2 Development of policy and management arrangements** provides user friendly guidance to help managers develop and apply effective policies on managing accidents and learning from them
- **Part 3 Practical support for accident investigators** provides investigators with guidance, and includes examples of good practices and checklists

This guidance applies to a wide spectrum of undesired events (including accidents, incidents and near misses) and extends beyond the requirements of Railway Group Standard (RGS) GO/RT3119 *Accident and Incident Investigation* and its associated Guidance Note GO/GN3519, which are largely focussed on train operations. This guidance applies to, for example, non-train related accidents and those involving only minor injuries.

The guidance covers the key aspects of investigation, but also other important related issues of proportionate accident management. These wider issues, which are dealt with in detail in **Part 2**, include the provision of necessary systems and resources, response management, reporting, recommendation management and the learning of lessons, leading to continuous improvement.

The key elements of an investigation are contained in **Part 3**, including: remit, evidence gathering, interviewing techniques, analysis of immediate and underlying causes and recommendations.

The guidance is built on an understanding of risk management and the integration of both human factors principles and a positive safety culture, with the aim of continuous improvement in the application and performance of safety management.

The Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS) require the inclusion of the following among the basic elements of a safety management system: ‘procedures to ensure that accidents, incidents, near misses and other dangerous occurrences are reported, investigated and analysed and that necessary preventative measures are taken’. This guidance is designed to assist transport operators and others with this ROGS requirement.

What is good accident investigation?

Good and proportionate investigation should lead to fewer accidents.

Good accident and incident investigation consistently and accurately identifies immediate and underlying causes after thorough analysis and produces objective and appropriate recommendations.

These should then be effectively implemented and the necessary lessons learned. This should lead to fewer accidents and continuous improvement, both within each transport operator’s activities and across the industry.
Part 1 - The role of the senior manager

Good accident management relies on cooperation between those involved, including: transport operators, contractors, emergency services, public bodies, other investigating bodies and other relevant agencies. This guidance supports the need for this cooperation across the interfaces in order to improve whole-industry safety systems and performance.

The RAIB, BTP and ORR have legally specified roles and are required to cooperate in relation to railway investigations: these roles are described in a Memorandum of Understanding (MoU). As the actions of these bodies will impact on the policies and arrangements of transport operators the MoU is summarised in Part 2 of the guidance.

In order to achieve this, organisations need to have in place well designed risk based systems and adequate resources underpinned by strong and visible commitment and support from senior managers.

The principles of good investigation apply whether the event is large or small, or involves a moving train or an individual on, or away from, the main line or whether the event resulted in injury, damage or neither of these. The resources then applied should be proportionate to the risk. It is important to recognise that the investigation of near misses can bring most of the benefits of accident investigation for little cost in terms of actual consequence.

**Why is good accident investigation important?**

Good accident investigation will assist in reducing the number of accidents and their consequences.

Good accident investigation will assist in reducing the number of accidents and their consequences, should they occur. It will also protect organisations against subsequent litigation if an accident does recur. As a consequence of this, loss will be reduced. There are also sound humane, economic and legal reasons for good accident investigation.

**Legal**

There are legal requirements such as the Railways and Other Guided Transport Systems (Safety) Regulations 2006, which transport operators will address in their Safety Management Systems. Recent legislation relating to corporate manslaughter will also have an impact on the investigation of accidents and the implementation of recommendations.

**Humane**

A positive work culture, or safety culture, which is reflected in employee (frontline and management) attitudes towards safety, key day-to-day behaviours and the quality and effectiveness of the underlying safety management system, will demonstrate the transport operator’s duty of care and humane ethos.

**Economic**

Accidents are expensive, with many factors contributing to this. In addition to the more obvious costs are the loss of reputation and morale, distraction from main tasks, time taken and resources involved in investigating through to review and then application of the lessons learned. For major accidents these costs can be extreme, to the level of business collapse. Costs of legal fees can be significant, sometimes several times the more obvious costs.

Good application of the Safety Management System and its components such as, assessment and control of risks, proportionate accident management, competence systems, high level review, implementation of recommendations, learning and sharing of lessons, will all assist in preventing the repeat cost of accidents. In short, good safety management is good for business.

**Cooperation**

Cooperation across interfaces should improve system safety performance.

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The role of the senior manager

The visible engagement of senior managers should lead to continuous improvement.

Without the support of senior managers the benefits of good accident investigation will not be gained. The following are key areas where the commitment of senior management is needed:

**Leadership**

The visible engagement and interest of senior managers at appropriate stages of the investigation process, and especially in understanding and applying the lessons learnt, will enhance its chances of leading to continuous improvement.

**Policies and arrangements**

An effective Safety Management System will, in addition to containing the relevant policies, as required by law and by the company’s business needs, include arrangements for applying these policies effectively. Senior managers are ultimately responsible for overseeing this application.

**Resources**

A key role for the senior management team is ensuring the necessary resources are made available, an important part of which is the competence of all those involved in providing detail and expert opinion to assist with investigations and the wider aspects of accident management. The updated guidance adds focus on the best use of resources, through the use of tools to achieve a proportionate response throughout the investigation process.

**Involvement**

Appropriate senior management involvement in an early review of the undesired event is useful to give authority to the decisions on the remit and its allocation of resources to the investigation. Relevant senior managers should also be involved in the effective implementation of recommendations.

**Review**

In order to systematically learn lessons organisations will need high level review processes with active participation, thorough scrutiny of risks and good quality discussion. One example could be a safety review group of senior managers/professional heads meeting, perhaps quarterly, with a standing agenda item: ‘review of safety losses’. This could include:

- Reports on activity (leading) and outcome (lagging) indicators, noting trends and understanding the reasons for them
- Analysis of any relevant major accident, noting underlying causes
- Implementation and effectiveness of previous recommendations
- Agreeing actions from lessons learned and review of previous actions from high level reviews
- Agreeing how to apply this learning to the company, eg via team meetings

Reviews should also consider the reduction in accident loss resulting from its positive management and Part 2 of this guidance contains some suggested criteria for measuring this improvement.

**Learning lessons**

Organisations should be open to learning lessons and once learning points have been identified senior management support is necessary in order to gain the benefits through, for example, updated procedures and SMSs, training and briefing of staff, new equipment design and improved safety culture and changes to monitoring and review processes. The pace of change in the industry can impact on the level of staff turnover and the consequent risk of a loss of corporate knowledge so lessons, once learned, could be forgotten. Effective systems for safety validation of change should assist with the retention of corporate knowledge.

**Cooperation**

Cooperation at interfaces is required at various stages of accident investigation as Parts 2 and 3 outline. At the industry-wide level, in order that lessons can be learned, it is important that reporting of undesired events is timely and accurate, transport operators play an active role in cross industry groups and examples of good practice are shared via these groups and other appropriate channels.

**Use of this guidance**

The use of this three-part guidance by appropriate and competent staff should assist in reducing loss due to accidents across the railway industry.

Parts 2 and 3 of this guidance contain Forewords from the ORR and RAIB.