

# *Investigators' Handbook*

## *Part 7 – Accident reporting*



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## ***Accident reporting***

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This section of the handbook provides guidance on the types of events that need to be reported, to whom they need to be reported and who will undertake the reporting.

## RIDDOR 1995

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR 1995), sets out a framework for reporting specified categories of accidents, incidents and diseases.

A complete list of what needs to be reported can be found within the regulations and the associated schedules. The following provides a brief summary of the types of accidents and incidents to be reported:

Death of a member of the workforce or a member of the public	See Regulation 3
Major injury (e.g. broken leg, amputation) to a member of the workforce	See Regulation 3 and Schedule 1
Injury to a member of the workforce where a person is away from work or unable to work normally for more than 3 consecutive days	See Regulation 3
Injury to a member of the public or a person not at work where they are taken from the scene of an accident to hospital	See Regulation 3
Work-related diseases e.g. skin cancer from mineral oil	See Regulation 3 and Schedule 3, Part 1
Dangerous occurrences, e.g. scaffolding collapse, running line derailments and collisions	See Regulation 3 and Schedule 2, Parts: I – General Dangerous Occurrences, and IV – Dangerous occurrences on a transport system

**Table 1 – Summary of RIDDOR reportable events**

Accidents, incidents and diseases occurring on the operational railway will be reported to the Office of Rail Regulation (ORR). Those occurring in non-operational premises, i.e. offices and depots not part of the operational railway (for example Network Rail's offices at Kings Place), will be reported to the Health & Safety Executive or the local enforcing authority.

The reporting of accidents, incidents and diseases will, with the exception of those that need to be reported immediately (see the [Immediate reporting to ORR](#) sub-section below), will be undertaken by the Safety Reporting team at Milton Keynes using SMIS (see the [SMIS](#) section of this Part 7 of the handbook).

## ***Immediate reporting to ORR***

Certain types of accidents and incidents must be reported immediately to ORR.

In summary, the following types of accident or incident must be reported immediately, normally by telephone:

- a) any accident (e.g. derailment, collision, fire etc.) to a passenger train where fatalities or serious injuries occur to passengers, staff or others;
- b) any serious accident to a train (e.g. high speed derailment or head-on collision) even if there are no casualties;
- c) any incident which seems likely to result in substantial disruption to passenger services for at least 1 hour;
- d) any accident involving the release or combustion of dangerous goods from a train which necessitates the evacuation of railway personnel or the general public from the area affected;
- e) any incident involving a freight train carrying radioactive materials;
- f) any collision between a train and a road vehicle at a level crossing whether or not there have been any injuries;
- g) any pedestrian fatality at a public road level crossing.

The relevant Route Operations Control will immediately notify the ORR. Other accidents and incidents will be reported to the ORR by the Safety Reporting team at Milton Keynes.

Full details of the accidents and incidents that need to be reported immediately to the ORR can be found in Network Rail company standard [NR/L3/INV/0113](#).

## Reporting to RAIB

The Railways (Accident Investigation and Reporting) Regulations 2005 (RAIR 2005) define the powers and duties of the Rail Accident Investigation Branch (RAIB).

Regulation 4 places requirements on railway industry bodies (railway infrastructure managers, railway operators, or maintainers – i.e. Network Rail and train and station operators) to report accidents and incidents to the RAIB. The types of accidents and incidents to be reported to the RAIB are very similar to the requirements contained within RIDDOR 1995.

Details of the types of accident/incident to be reported are contained within Schedules 1 to 3 of RAIR 2005, viz.:

Schedule 1	<p><u>Accidents/incidents which must be notified immediately and by the quickest means available</u></p> <p>This includes:</p> <ul style="list-style-type: none"><li>• An accident resulting in the death of a person or the serious injury of two or more persons</li><li>• An accident on a level crossing involving a train, resulting in the death of a person or serious injury to a person</li><li>• A collision (between trains) on a running line which causes damage or blocks a running line that was open to railway traffic at the time of the collision</li><li>• A derailment on a running line that was open to railway traffic at the time of the derailment, or which blocks a running line that was open to railway traffic at the time of the derailment</li><li>• A collision with a buffer stop, other than in a siding, that causes damage to the rolling stock</li><li>• An accident involving the release or combustion of dangerous goods being carried that necessitates the evacuation of the area</li><li>• An accident or incident that is likely to result in suspension of a railway service for a period in excess of 6 hours</li><li>• An accident that causes extensive damage to rolling stock, the infrastructure or the environment</li><li>• An accident or incident which under slightly different conditions might have led to a death, serious injury or extensive damage to rolling stock, the infrastructure or the environment</li></ul>
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Schedule 2	<p><u>Accidents and Incidents which must be notified as soon as reasonably practicable and in any event within 3 working days of occurrence</u></p> <p>This includes:</p> <ul style="list-style-type: none"> <li>• A collision with an object (other than an animal or where due to vandalism) on or adjacent to a running line which under slightly different conditions might have caused a derailment</li> <li>• An accident resulting in the serious injury of one person</li> <li>• An obstruction of or damage to track, caused by a road vehicle encroaching onto a running line</li> <li>• Any unintended division of a train</li> <li>• The failure of rolling stock on the track caused by the failure of an axle; the failure of a wheel or tyre, including a tyre loose on its wheel; or a fire or severe electrical arcing or fusing</li> </ul>
Schedule 3	<p><u>Accidents and incidents which must be notified no later than 10 days after the end of the month in which the accident or incident occurred</u></p> <p>This includes:</p> <ul style="list-style-type: none"> <li>• The failure of equipment at a level crossing which reduces the level of safety on the railway</li> <li>• The failure of a rail on a running line or the buckling or detachment of a piece of rail and which necessitates an immediate closure of that running line or speed reduction</li> <li>• The failure of a structure on railway property, including a tunnel, bridge, viaduct, culvert, railway cutting, embankment, station, signal or fixed electrical equipment which under slightly different circumstances may have led to a serious accident or which otherwise reduces the level of railway safety</li> <li>• Wrong side failures of signalling equipment</li> <li>• Category A SPADs</li> </ul>

**Table 2 – Events reportable to RAIB**

Each railway industry body whose staff or property was involved in the accident or incident is required to notify RAIB of an accident or incident.

The National Operations Centre (NOC) will undertake the notification to the RAIB of accidents/incidents included within Schedules 1 and 2 on behalf of Network Rail.

For the majority of Schedule 3 accidents/incidents the RAIB will utilise Network Rail's Safety Environment and Assurance Report (SEAR) to obtain the data it requires and to monitor trends.

## ***Immediate reporting to RAIB***

As with the ORR, certain accidents and incidents must be reported to the RAIB immediately and the types of accidents and incidents to be reported are very similar.

Details of the accidents and incidents that need to be reported immediately to the RAIB can be found in Network Rail company standard [NR/L3/INV/0113](#).

## Railway Group and Network Rail standards

### Railway Group standards

Railway Group standard GE/RT8047 *Reporting of Safety Related Information* mandates the requirements for the reporting of accidents and incidents (and safety-related enforcement action) to the Safety Management Information System (SMIS).

See the [SMIS](#) section of this Part 7 of the handbook for more details of the system.

The standard requires the input of data/information to SMIS in a timely and consistent manner, thereby satisfying statutory reporting requirements, where relevant, such as RIDDOR 1995, to:

- a) assist the assessment of the severity, frequency and origins of hazards arising from the running of trains on Network Rail managed infrastructure;
- b) assist the monitoring of industry safety performance;
- c) assist the monitoring of compliance with infrastructure managers' and railway undertakings' safety certificates;
- d) support the accident investigation, recommendation tracking and risk management processes.

## Network Rail standards

The following company standards identify:

- a) how, within Network Rail, the requirements of GE/RT8047 will be achieved;
- b) additional requirements for reporting of accidents, incidents and occupational ill-health; and
- c) how the company's statutory reporting obligations under RIDDOR 1995 and RAIR 2005 will be met.

NR/L3/INV/0101	<i>General requirements for the reporting of accidents, incidents and occupational ill-health</i>
NR/L3/INV/0103	<i>Reporting of personal accidents and assaults to employees and contractors</i>
NR/L3/INV/0104	<i>Reporting of occupational ill-health</i>
NR/L3/INV/0107	<i>Reporting of fires</i>
NR/L3/INV/0108	<i>Reporting of environmental events</i>
NR/L3/INV/0110	<i>Irregular working – Reporting and Risk Ranking</i>
NR/L3/INV/0113	<i>Statutory reporting of accidents, incidents and occupational ill-health</i>
NR/L3/INV/0116	<i>Reporting of and responding to enforcement action</i>

**Table 3 – Reporting and Investigation Manual procedures relating to accident reporting**

## Accident Report forms

Network Rail has developed a series of standard report forms for the reporting of accidents and incidents.

Blank copies of these forms can be obtained from Connect (click on the following link to view the available forms – [Accident and incident reporting forms](#)).

## **SMIS**

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## What is SMIS?

SMIS – the Safety Management Information System – is a database that links organisations throughout the country to a central database. The system is owned and managed by RSSB on behalf of the industry.

SMIS was implemented in December 1997 as a Windows-based application; there have been a number of development phases since then and in 2002 it was re-developed as an internet-based application.

When it was implemented in 1997 SMIS replaced a number of disparate databases, incorporating the data held within them, i.e.:

- a) BRIMS (British Rail Incident Monitoring System);
- b) SPADMIS (Signals Passed at Danger Management Information System);  
Separate, specialist databases for recording bridge strikes, derailments and dangerous goods incidents.

The data from these systems/databases provides some records of events as far back as 1973.

SMIS database stores all of the information on each safety event in a single record. As a relational database it is able to record, unlike the systems and databases it replaced, all the elements of a safety event, i.e. what happened and the assets and/or people involved.

On average:

- **250** safety events are recorded daily;
- Almost **1,800** safety events are recorded weekly;
- **85,000** safety events are recorded each year.

Within Network Rail, the recording of safety events in SMIS is undertaken by the Safety Reporting team based at Milton Keynes.

Details of the SMIS Input Points for each route and Network Rail corporate office can be found in [SMIS Input Points](#) on *Connect*.

## SMIS data entry requirements

SMIS takes into account the requirements of:

- (a) RIDDOR 1995;
- (b) Railway Group Standards;
- (c) Network Rail and other industry requirements.

These determine the information that must be recorded for a safety event. SMIS incorporates two rule sets (see below) which govern the data that must be input for particular types of safety events.

Data entry into SMIS is made unambiguous by the use of check boxes, radio buttons and drop-down lists of choices, rather than requiring a user to memorise and enter codes.

## SMIS safety event records

In SMIS a safety event is:

*"the complete set of circumstances involved in an accident or safety related incident."*

Safety events comprise of components and objects, where:

*a 'component' indicates what occurred (e.g. derailment, collision, personal accident);*

*and*

*an 'object' is the people or physical assets (e.g. train, signal, bridge) involved.*

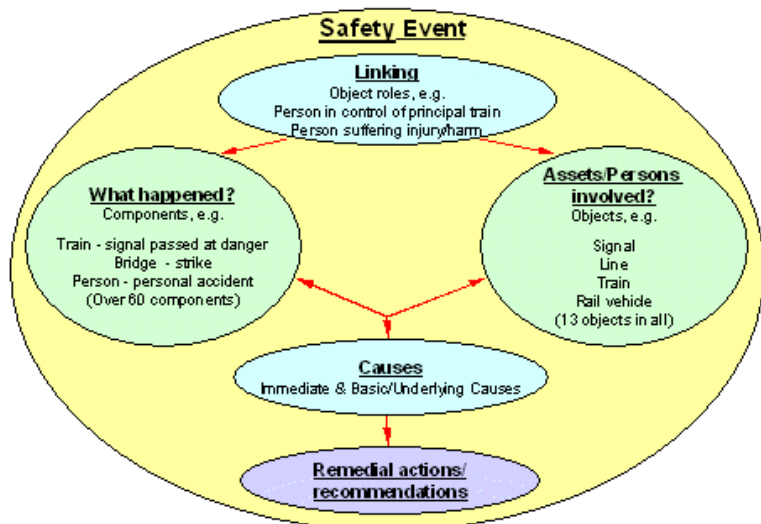
There are about 70 component types but only 13 object types.

A safety event record in SMIS may include only one 'component' and one 'object' but for complex accidents and incidents a record may include a number of both.

SMIS uses the concepts of:

- a) components;
- b) objects;
- c) linking;
- d) causes; and
- e) recommendations

to bring together the various elements of a safety event.



**Figure 1 – Structure of a SMIS safety event record**

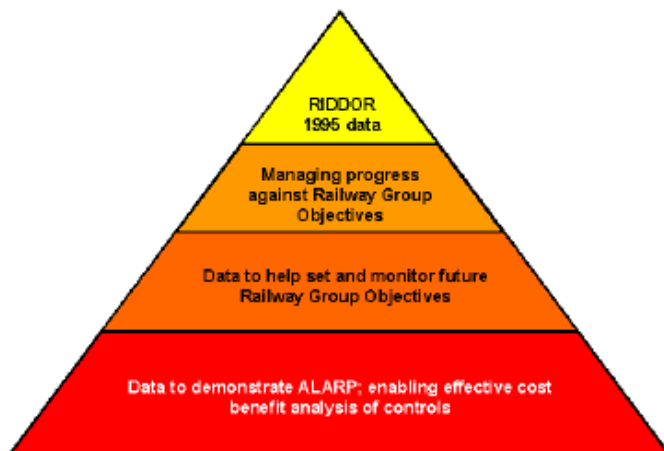


## SMIS Reporting and Recording Rules

The reporting of and access to accurate, consistent, timely and comprehensive data from SMIS is essential to understanding and reporting trends and designing appropriate control measures.

Whilst it is unrealistic, however, to expect the same degree of attention to be given to all safety event records, it is necessary to have a structure within SMIS that aims to:

- a) meet the needs of railway industry management; and
- b) make sure data/information is not required unnecessarily.



**Figure 2 – SMIS data needs structure**

To achieve this, SMIS uses two rule sets to determine the information that should be recorded for safety events. Many of the rules, especially the reporting rules, are specific to the type of safety event.

The two rule sets are:

Reporting rules	These determine whether the safety event is reportable under RIDDOR 1995.
Recording rules	These determine which data fields in SMIS will be made mandatory, optional or not required at all.

The rule sets can be modified by RSSB to reflect changes in requirements.

## **Linking of components and objects**

Linking is the concept used in SMIS to enable the user to link the component(s) and object(s) involved in the safety event to build a complete picture of what happened, without requiring a lot of descriptive text (although, if available, this may be entered in the safety event narrative and may assist with subsequent analysis of safety event records).

Linking, used in conjunction with the recording rules, helps SMIS determine the fields which will be activated and/or made mandatory.

## **Causes**

SMIS enables both immediate causes and underlying causes to be recorded and attributed – or linked – to the relevant component(s) and to the object(s) involved.

More than one immediate cause may be recorded.

SMIS also allows 'No cause established' to be entered where the results of the investigation have proved inconclusive or the cause could not be determined.

## **Investigations and recommendations tracking**

SMIS provides facilities for:

- a) recording the results of industry-led investigations (e.g. formal and local investigations) and externally-led (e.g. RAIB and ORR) investigations or inquiries, including their recommendations and actions; and
- b) tracking progress with recommendations arising from such investigations and inquiries.

## Searching and analysis of SMIS safety event records

Because of the way safety event records are constructed in SMIS, extensive searching and analysis can be undertaken on the data it holds.

The way a safety event record is constructed, particularly for more complex accidents and incidents, may lead to a safety event being recorded under more than one category – or component – type. For example, a train that becomes derailed after colliding with another train will be recorded in SMIS as both a *Collision* and a *Deraiment*.

It is important to bear this in mind when requesting data from SMIS or undertaking searches of safety event records in SMIS. Separate searches for derailments and collisions over the same time period may result in a number of common safety events; based on the example above, each search would include the same event.



**Figure 3 – Searches – common safety events**

If you do not have access to SMIS and wish to obtain data from SMIS, contact the relevant Safety Reporting Specialist – their details can be found in [SMIS Input Points](#) on *Connect*.

