

# *Investigators' Handbook*

## *Part 9 – Guidance for DCPs*

### *Part 9B*



*This Part 9B includes the following sections:*

- Remit – step-by-step guidance

## ***Part 9 – Guidance for DCPs***

### ***Part 9B***

## **Remit – Step-by-step guidance**

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This section of the handbook provides step-by-step guidance on preparing and issuing an investigation remit.

## Remit template

**Always** download a new template before starting to write a new remit, report or Names document.

**Do not** keep copies of the templates on local or network drives – the templates may change over time.

The Accident Investigation page on *Connect* has links to the investigation remit and report templates (click here [UUUUTemplates](#)).

The current version of the relevant remit template must always be used.

## File-naming convention

Each Word file should have a unique file name; do not just use the default name provided by the system.

The aim of the following guidance is to standardise the file-naming to provide a rational and organised structure to aid the archiving and retrieval of documents, particularly where a large number of documents will be held.

There is no need to differentiate between formal and local investigations.

## Category A SPADs

The remit should be named in accordance with the following convention:

[Signal number] SPAD [Event Type (Optional)] [Date (YYYY-MM-DD)] Remit

Adding 'Remit' to the file name will help distinguish it from the report and Names document files for the same event.

Examples:

Event type	Example
A simple Category A SPAD	CO183 SPAD 2009-10-15 Remit
An optional event type keyword may be used to indicate a subsequent event, such as a collision, derailment or runaway.	CO183 SPAD Derailment 2009-10-15 Remit
For incidents involving stop boards or limit of shunt signals (LOS), which are not numbered, the location should be added.	Norwood Stop Board SPAD 2009-10-15 Remit Norwood LOS SPAD 2009-10-15 Remit

**Table 1 – Event type examples (Cat A SPADs)**

## Other accidents/incidents

Remits for events other than SPADs should be named in accordance with the following convention:

[Location] [Event Type Keyword] [Date (YYYY-MM-DD)] Remit

Examples:

Event type	Example
A simple event	Windsor Derailment 2009-11-11 Remit
Accident (other than including fatality)	Cheshunt Staff Accident 2010-03-31 Remit Esher Public Accident 2009-07-04 Remit

Event type	Example
Fatality (Staff or public)	Seven Kings Staff Fatality 2007-12-03 Remit London Bridge Public Fatality 2009-07-04
An additional event type keyword may be used to indicate a subsequent event.	Windsor Collision & Derailment 2009-11-11 Remit
Level crossing incidents should include the abbreviation "LC"; the level crossing type may also be included.	Windmill Lane LC near miss 2008-02-11 Remit Victory LC collision 2009-08-12 Remit

**Table 2 – Event type examples (Other events)**

A list of the keywords to be used is shown below:

Keyword	Meaning/comment
Staff Accident	Staff/contractor accidents (excluding fatalities)
Public Accident	Public accidents (excluding fatalities)
Staff Fatality	Includes contractors
Public Fatality	Includes passengers
SPAD	Normally Cat A or D; Cat B is normally signal(ling) irregularity
Collision	Includes collisions at LC and train striking objects
Derailment	
Runaway	
WSF	Wrong side failure (usually signalling)
RRV	Road rail vehicle
Possession Irregularity	Events involving T3/T4 possession only
Protection Irregularity	Events involving T12/T2 protection only
Signalling Irregularity	Irregular operation of signalling caused by human action
Signal Irregularity	Irregular operation of signalling with technical cause

Keyword	Meaning/comment
Irregular Working	Anything not covered by the preceding four keywords

**Table 3 – Keywords**

## ***Circumstances of the event unclear or disputed***

If, at the time the remit is being prepared, the circumstances of the event are unclear or disputed, consider preparing a remit to investigate the circumstances of an 'alleged' event.

### ***Signals passed at danger***

If in the case of a signal passed at danger there is doubt as to whether this was done 'with authority', or the driver disputes the aspect displayed, in such cases it would be appropriate to prepare a remit for the investigation of an 'alleged Category A SPAD', and unless further evidence emerges that confirms what exactly occurred.

In the case of a SPAD where there is doubt, it is desirable for the investigation to address the 'higher' or more serious category of event, i.e. Category A, where the evidential requirements are more onerous, than vice versa. Attempting to subsequently investigate the event as a Category A SPAD may mean that some evidence may be lost because it was either not collected or is no longer available.

The final categorisation of the incident will need to be included in the 'Event Summary' section of the investigation report in accordance with Part 3B of the handbook and [NR/L3/INV/0205](#).

## Cover

**Do not** include a photograph on the cover.

### Organisations involved

The names of the organisations involved, i.e. participating in the investigation, need to be shown on the cover as follows:

The lead organisation	The lead organisation's name (i.e. area, route, delivery unit, asset or project) and function should be shown on the cover.
Other participating Network Rail functions	Do not show these on the cover.  Whilst more than one area/route/delivery unit/function/asset/project of Network Rail may be participating in the investigation, <b>only the lead organisation</b> needs to be shown on the cover.
Other involved organisations	Each other organisation involved in the investigation needs to be shown on the cover. For railway undertakings (e.g. train operators), i.e. those organisations with a safety certificate, use the name shown on the safety certificate. For other organisations use the company name.  The safety certificates of railway undertakings can be found on the Network Rail Portal.  Go to the 'Applications' tab and select 'National' and 'Safety' and under 'References' click on 'ROGs – Safety Certificates/Authorisations'.

**Table 4 – Organisations involved**



## Lead organisation

Examples of how to show the lead organisation are provided below:

Remit for a Local Investigation	
to be held by	
Network Rail	XYZ delivery unit, Infrastructure Maintenance



Remit for a Local Investigation	
to be held by	
Network Rail	ABC area, Operations & Customer Services



Remit for a Local Investigation	
to be held by	
Network Rail	Enhancements, Infrastructure Investment



**Single area routes** (e.g. Wessex, Sussex, Anglia and Kent) – show the route name and function.

**Multiple area routes** – show the area and function only, and not the route.

## Other involved organisations

An example of how to show the other organisations involved are provided below

Remit for a Local Investigation	
to be held by	
Network Rail	ABC area, Operations & Customer Services
DB Schenker	
DEF Consulting Co. Ltd.	

## Event description

Include a brief description of the event to be investigated. For example:

Remit for a Local Investigation	
to be held by	
Network Rail	ABC area, Operations & Customer Services
DB Schenker	
DEF Consulting Co. Ltd.	
into the following event	
Midtown : 6D22 19.20 Somewhere to Newtown passed signal MN21 at danger : Thursday 20 May 2010	

## SMIS reference

This should be obtained from the relevant SMIS Input Point (details of these can be found on [Connect](#)).

## Footer – Summary of event

Include a short summary of the event, i.e.:

Location : Brief Description : Date (in DD/MM/YY format)

Try to keep it short enough to fit onto a single line.

Remit for a Local Investigation	
to be held by	
Network Rail	ABC area, Operations & Customer Services
DB Schenker	
DEF Consulting Co. Ltd.	
into the following event	
Midtown : 6D22 19.20 Somewhere to Newtown passed signal MN21 at danger : Thursday 20 May 2010	
SMIS reference	MNO/123456

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## General details, investigation team and observers

### General

Add the following to section C1 of the remit:

- a) the 'title' and 'date';

These should be the same details as used on the cover.

- b) the 'lead organisation' should identify the function only –.

### C. Remit

#### C1. General

C1.1. This remit is issued in accordance with Network Rail company standard NR/L3/INV/0204 *Network Rail led local investigations* and requires the investigation of the following accident/incident.

C1.2. Title: 6D22 19.20 Somewhere to Newtown passed signal MN21 at danger at Midtown

C1.3. Date: Thursday 20 May 2010

C1.4. Lead organisation: Network Rail, Operations & Customer Services

### Lead investigator

See the 'General guidance for DCPs' in Part 9A of the handbook for guidance regarding the appointment of the lead investigator.

Add the lead investigator's name, their job title and function.

### C. Remit

#### C1. General

C1.1. This remit is issued in accordance with Network Rail company standard NR/L3/INV/0204 *Network Rail led local investigations* and requires the investigation of the following accident/incident.

C1.2. Title: 6D22 19.20 Somewhere to Newtown passed signal MN21 at danger at Midtown

C1.3. Date: Thursday 20 May 2010

C1.4. Lead organisation: Network Rail, Operations & Customer Services

#### C2. Lead investigator

C2.1. Fred Smith: Operations Manager, North, Operations & Customer Services

## Investigation team members

In some cases, where the event involves only one function, it may be appropriate for the investigation team to comprise only the lead investigator.

The DCP should consider whether this is desirable bearing in mind the circumstances and severity of the event to be investigated.

When setting the remit, the DCP should give due consideration to the size and composition of the investigation team.

The investigation team should not be so large that it becomes difficult to manage, or that it inhibits the witnesses from giving evidence. A team should ideally consist of no more than 3-4 persons (not including observers).

See also the following sections of this handbook for further guidance on the appointment and the role of investigation team members:

Further guidance provided in:	
The 'Arranging the investigation' section in Part 2A of the handbook	See the 'Investigation team members and observers, etc.' sub-section. This also includes guidance on Network Rail Human Factors specialists.
'General guidance for DCPs' in Part 9A of the handbook	See the 'Appointment of the investigation team' sub-section.

**Table 5 – Further guidance references**

When a Senior Investigator or specialist independent investigator has been appointed as the lead investigator in accordance with NR/L3/INV/0201, the DCP should consider the provision of a separate Network Rail representative on the investigation team who possesses knowledge/experience of the location, activity, etc.

Show only the name of the organisation/function to be invited to participate and the expertise they are expected to provide at the investigation.

**Do not** include the **name** of any person who may act as an investigation team member as this may change before the investigation is held and would require the remit to be re-issued.

The investigation team must have a balance of knowledge and experience appropriate to the event being investigated, so the DCP should, where appropriate, specify in the remit the skills/experience that each organisation's representative should provide, e.g.:

## C. Remit

### C1. General

- C1.1. This remit is issued in accordance with Network Rail company standard NR/L3/INV/0204 *Network Rail led local investigations* and requires the investigation of the following accident/incident.
- C1.2. Title: 6D22 19.20 Somewhere to Newtown passed signal MN21 at danger at Midtown
- C1.3. Date: Thursday 20 May 2010
- C1.4. Lead organisation: Network Rail, Operations & Customer Services

### C2. Lead investigator

- C2.1. Fred Smith: Operations Manager, North, Operations & Customer Services, Operations & Customer Services

### C3. Investigation team members

- C3.1. In accordance with Network Rail company standard NR/L3/INV/0204 the following shall be invited to participate in the local investigation as team members:

- a) DB Schenker Train operations and driver management expertise
- b) DEF Consulting Co. Ltd. Possession delivery expertise
- c) Network Rail National Delivery Service – Possession planning expertise

Each involved organisation/function should be informed and accept that the nominated investigation team members will be signatories to the agreed conclusions and recommendations/local actions.

## Specialist advisers

It may be necessary to invite a specialist adviser to be a member of the investigation team. The need for a specialist adviser will depend on:

- a) the circumstances of the event;
- b) the collective expertise of the investigation team.

The traditional railway disciplines, such as traction and rolling stock, track and structures, signalling, train operations, electrification, may be covered by the investigation but other disciplines may need to be considered, e.g. human factors expertise.

See also the 'Arranging the investigation' section in Part 2A of the handbook for guidance on Network Rail Human Factors specialists.

## Observers

Further guidance on the role and attendance of observers is provided in the 'General guidance for DCPs' in Part 9A of the handbook.

Where the investigation team:

- a) is likely to want to interview witnesses; and
- b) any witness is a member of a trade union (i.e. RMT, ASLEF, TSSA or UNITE);

include the relevant trade union in the list of observers.

Details of the trade union contacts are provided on [Connect](#).

Other observers should be identified as necessary (if known, include their name, job title and organisation/function).

Where witnesses are to be interviewed, the number of observers may need to be restricted such that the number of persons present at the investigation enables interviews to be properly conducted and does not inhibit the process of giving evidence.

## General objectives

The remit's 'General Objectives' requires the investigation of the circumstances of the accident/incident, including the following:

Identifying the events leading up to the accident/incident	
Identifying the immediate and underlying causes, including the relevance of the ten incident factors	See the '10 Incident Factors' section of Part 4 of the handbook for more details of these.
Consideration of previous accidents/incidents of a similar nature	<p>The lead investigator should be advised that:</p> <ul style="list-style-type: none"> <li>previous investigation reports are available from the Safety &amp; Compliance functions Report Archive on CCMS2; and</li> <li>information from SMIS can be obtained from the Safety Reporting team at Milton Keynes.</li> </ul>
Consideration of the findings/intelligence from relevant audit/assurance activity	<p>The lead investigator should be advised of any known relevant audit/assurance activity or where to find this.</p> <p>See the 'Evidence' section in Part 2A of the handbook for more details of the types of audit/assurance activity.</p> <div style="border: 1px solid black; background-color: yellow; padding: 10px; margin-top: 10px;"> <p>See also the <a href="#">Assurance of Technical and/or Operational change</a> sub-section below).</p> </div>
Consideration of the specific objectives listed.	See following sub-section.

**Table 6 – General objectives**



## **Assurance of Technical and/or Operational change**

In the case of events related to or involving:

- a) projects for new or changed infrastructure, or
- b) operational changes, e.g. timetable changes and changes to authorised line speeds,

the DCP should consider the need to add a specific objective to the remit requiring the investigation to specifically consider (in addition to any other audit/assurance activity) the overall safety verification process involved with the change. This should include, for example, a review of the application of the process shown in [NR/L3/RSE/0001 Safety Verification](#) by the project team for new/changed infrastructure (including, where appropriate, the project documentation submitted for inspection/review by the competent independent person (CIP), the CIP's comments and the project team's responses to the CIP's comments).

## **Specific objectives**

In deciding what specific objectives to include within the remit, the DCP should consider:

- a) the known facts of the event to be investigated;
- b) similarities with previous events or trends in such events;
- c) the actual and potential consequences of the event;
- d) information or comments received from participating organisations and other Network Rail functions, if involved.

The specific objectives should address at least the following:

- a) the people and the train, vehicles, infrastructure, or other equipment involved in the event; and
- b) the event itself and the adequacy of the response to the event.

## **The 10 Incident Factors**

See the '10 Incident Factors' section of Part 4 of the handbook for further details and guidance.

Whilst consideration of the 10 Incident Factors needs to be undertaken as part of the investigation (see the remit's general objectives) and should address the following issues, the DCP may wish to include one or more of them as specific objectives:

Specific objective	Relevant Incident Factor
The contribution of communications, both operational communications between all the parties concerned and the communications which underpin a shared understanding of the situation (such as safety briefings and handovers)	Communications
The adequacy of and compliance with the relevant rules, standards and instructions or method of working	Practices and processes
The adequacy of any equipment involved including: <ul style="list-style-type: none"><li>• its design;</li><li>• its use;</li><li>• the arrangements for maintenance and rectification of faults.</li></ul>	Equipment
The adequacy of the competency arrangements, including (where relevant) the selection, training and on-going assessment	Knowledge, skills and experience
The contribution of supervisory and management factors including: <ul style="list-style-type: none"><li>• the role of the supervisor/manager in enforcing safe behaviours and/or systems;</li><li>• the experience of the supervisors/managers;</li><li>• their role in resource allocation (people and equipment).</li></ul>	Supervision and Management
The contribution of external and environmental factors, including: <ul style="list-style-type: none"><li>• weather conditions,</li><li>• visibility,</li><li>• track conditions (including adhesion problems and the response to them).</li></ul>	Work Environment

Specific objective	Relevant Incident Factor
<p>The contribution of individual factors to do with their fitness (both mental and physical) to work, including:</p> <ul style="list-style-type: none"> <li>an examination of the work patterns and rest periods of the staff involved to determine the extent to which work related fatigue may have been an issue;</li> <li>any preoccupations or distractions of the staff involved.</li> </ul>	Personal
<p>The contribution of task factors including:</p> <ul style="list-style-type: none"> <li>the number and combinations of tasks;</li> <li>the pressures surrounding completion of the tasks;</li> <li>the role of underload/overload.</li> </ul>	Workload

**Table 7 – Specific objectives/10 Incident Factors**

## **Specific objectives for event categories**

Examples, based on generic event types, of the specific objectives that may need to be included in investigation remits are provided at Appendix A.

A Word version of these examples is provided on [Connect](#) to enable them to be copied into remits where appropriate.

The examples may need to be edited, i.e. items deleted or other items added as appropriate, to meet the circumstances of the event to be investigated.

It may be appropriate to include specific objectives from more than one example.

## Signals passed at danger

In the case of investigations into Category A SPADs, the specific objectives to be considered should be based on the circumstances of the incident and the results of the SPAD Risk Ranking (SRR) of the event.

For example:

	Consider including:
The signal involved is, or has become, a multi-SPAD signal	The details and analysis of the effectiveness of any SPAD reduction or mitigation actions previously taken at the signal
It is the 2nd SPAD in 5 years for any person implicated	<ul style="list-style-type: none"> <li>• Previous SPAD history and details of incidents involving the people implicated in the incident, and their relevance to the SPAD being investigated</li> <li>• The adequacy of staff selection, training, assessment and special monitoring processes for any staff implicated in the incident</li> </ul>
If the overrun distance was greater than 183 metres	<ul style="list-style-type: none"> <li>• Adequacy of the braking distance afforded</li> <li>• Gradients and permissible/attainable speeds</li> <li>• Preceding aspect sequences and route indications</li> <li>• The routes by which the signal could be approached</li> </ul>

**Table 8 – Specific objectives for Category A SPAD investigations**

## Timescales

The timescale for the provision of the draft (formal investigations only) and completed reports needs to be added where indicated by # within the remit.

The timescales should be:

Investigation level		No. of weeks	
Local investigation	Other than for Category A SPADs	2 <sup>1</sup>	
	Category A SPADs	4 <sup>1</sup>	
Formal investigation	Other than for 'serious accidents'	Draft	5 <sup>1</sup>
		Completed	8 <sup>1</sup>
	'Serious accidents'	Draft	9
		Completed	16

**Table 9 – Timescales for investigation reports**

- <sup>1</sup> With the exception of formal investigations of 'serious accidents', the timescales shown are the normal timescales but these may be extended by the DCP to take account of, for example, the following:
- the investigation team needs to reconvene to interview further witnesses or to consider new evidence;
  - the investigation is unable to commence owing to the absence of key witnesses (e.g. through sickness, injury or leave);
  - the investigation team is awaiting critical evidence or information or the results of tests before it can reach a satisfactory conclusion;
  - delays likely to occur due to bank and public holidays.

## **Timescale extensions**

A lead investigator may request an extension to the timescale. If the extension is agreed, the DCP must re-issue the remit amending the timescales to reflect the agreed extension and adding an explanation beneath the revised timescales.

The DCP should provide the Safety Reporting team at Milton Keynes with the issued remit (and any re-issued remits) to enable the investigation to be tracked in SMIS.

## **Authorisation**

A remit circulated for comments (see the [Remit consultation](#) sub-section below) should be unsigned.

The remit should be signed:

- a) once any consultation with participating organisations has been completed; and
- b) when the remit is re-issued to take account of any subsequent changes.

The lead investigator should be provided with a printed and signed copy of the remit (and any subsequent re-issues) to retain it on the investigation file.

It is not necessary for a formal investigation report to contain the DCP's signature – a note to the effect that the signed remit is held on the investigation file will suffice.

## **Remit issue number**

The remit should show 'Issue 1' when first issued.

Where the remit is re-issued to take account of any changes (e.g. timescale extensions) the issue number should be amended to 'Issue 2', 'Issue 3', etc. as appropriate.

**Do not use** 'Final' for the completed remit.

## ***Remit consultation***

When inviting organisations (and other Network Rail functions) to participate in the investigation, the DCP should arrange for the prepared remit to be sent to the participating organisations/functions and invite them to comment on the remit.

At the same time, the participating organisations/functions should be asked to nominate their representatives for the investigation team.

The participating organisations/functions should be provided a reasonable period of time; 2 working days may be considered reasonable to comment on the remit.

Any comments received should be considered and, if necessary, the remit should be revised and re-issued.

## Appendix A – Specific objectives examples

The text in these examples may be copied and pasted directly into the remit as the format and styles are the same.

It may be appropriate to include specific objectives from more than one example.

### **Example 1 – Category A SPADs – Basic remit**

#### **C7.1. Condition and operation of the train:**

- a) the braking capabilities and characteristics of the train;
- b) in cab actions of the driver on approach to the SPAD signal;
- c) actions of the driver of the SPAD train to bring his train to a stand following the SPAD;
- d) actions of the driver of any potential conflicting train on realising that another train may come into conflict;
- e) operation of the AWS, TPWS or ATP equipment;
- f) speed and control of the train;
- g) maintenance of the train;
- h) operation of wheelslip protection and/or sanding equipment.

#### **C7.2. Condition and operation of the signalling equipment:**

- a) operation of the signalling system;
- b) gradients and permissible/attainable speeds;
- c) complexity of infrastructure (e.g. station stops, speed restrictions, neutral sections curved approaches, bridges) on the route and in particular their sight lines;
- d) the sequence of successive signal on approach to the signal (e.g. 4 to 3 aspect);



- e) types of trains authorised or planned;
- f) actions taken by the signaller to halt the SPAD train;
- g) reason the signal was at danger;
- h) results of any post incident testing;
- i) previous SPAD history and incidents associated with the equipment, including aspect sequences condition and effects of signals on approach to the signal concerned;
- j) details and analysis of the effectiveness of any SPAD reduction or mitigation actions taken at the signal;
- k) signal sighting issues or SSC recommendations and any mitigation measures (or reasons for not convening an SSC).

## C7.3. Risk:

- a) risk ranking score for the SPAD;
- b) risk assessment of the signal;
- c) likelihood of recurrence.

## C7.4. Potential consequences:

- a) length of overrun;
- b) track layout.

## C7.5. The adequacy of the competency arrangements, i.e. the selection, training and on-going assessment, for any staff implicated in the incident, including:

- a) the special monitoring status of the staff implicated in the incident.

- C7.6. The adequacy of and compliance with the relevant rules, standards and instructions, method statements or method of working and mitigation applied from lessons learned from any previous related incidents at the location, including:
- a) any unsafe methods of working;
  - b) train working arrangements (including running and shunting movements, and movements into occupied lines);
  - c) normal stopping positions of trains.
- C7.7. Timetable and network performance issues, including:
- a) the risk accrued from the frequency of trains approaching the signal;
  - b) type of conflicts present ahead of the signal.

## **Example 2 – Cat A SPAD at worksite marker boards involving RRV/RMMM within T3 possession**

- C7.1. The adequacy and effectiveness of the arrangements for the possession, including:
- a) the planning and publication of the possession and the associated worksite;
  - b) on/off tracking and movement of the RRV/RMMM;
  - c) provision of a machine controller for the RRV/RMMM;
  - d) the briefing of the staff within the worksite and the RRV/RMMM staff.
- C7.2. Condition and operation of the RRV/RMMM:
- a) speed and control of the RRV/RMMM;
  - b) in cab actions of the RRV/RMMM operator on approach to the marker boards.
- C7.3. Condition, operation and positioning of the marker boards.
- C7.4. Risk:
- a) risk ranking score for the SPAD;
  - b) likelihood of recurrence;
  - c) risk assessment for the signal.
- C7.5. Potential consequences:
- a) length of overrun;
  - b) track layout.
- C7.6. The adequacy of the competency arrangements, i.e. the selection, training and on-going assessment, for any staff implicated in the incident.

- C7.7. The adequacy of and compliance with the relevant rules, standards and instructions, including:
- a) any unsafe methods of working;
  - b) actions of staff within the worksite and involved with the movement of the RRV/RMMM;
  - c) the level of compliance with safety critical communication protocols.

## **Example 3 – Possession irregularities**

- C7.1. The adequacy and effectiveness of the arrangements for the possession, including:
- a) the planning and publication of the possession, its limits and duration;
  - b) the briefing arrangements of the person in charge of the possession and the engineering supervisors;
  - c) the identification of the worksite and the engineering supervisor's awareness of the worksite boundaries;
  - d) the arrangements made for the movement of on-track machinery during the possession.
- C7.2. The adequacy of the competency arrangements, i.e. the selection, training and on-going assessment, for any staff implicated in the incident.
- C7.3. The adequacy of and compliance with the relevant rules, standards and instructions.

## **Example 4 – Derailments**

- C7.1. Condition and operation of the train:
- a) train speed and handling;
  - b) driver's response to the derailment (e.g. emergency brake application);
  - c) composition of the train;
  - d) operation and effectiveness of the brakes;
  - e) the maintenance and failure history;
  - f) signaller's response (e.g. NRN emergency stop broadcast).
- C7.2. The performance of the track and formation, including:
- a) design, type and condition of track and formation;
  - b) post incident testing and measurements;
  - c) the maintenance and failure history;
  - d) any derailment prevention and mitigation measures (e.g. checkrails);
  - e) other relevant infrastructure matters (e.g. gradient).
- C7.3. Condition and operation of the signalling equipment:
- a) operation of the signalling system;
  - b) gradients and permissible/attainable speeds.
- C7.4. The adequacy of the competency arrangements, i.e. the selection, training and on-going assessment, for any staff implicated in the incident.

- C7.5. The adequacy of and compliance with the relevant rules, standards and instructions.
- C7.6. The adequacy of the response to the incident, including:
- a) post incident management;
  - b) completion of forms (e.g. RT3189) and reports (e.g. RT3185);
  - c) gathering of evidence (including preservation, downloading and interpretation of voice and data recordings);
  - d) drug and alcohol testing;
  - e) aftercare of the staff involved;
  - f) aftercare of the passengers involved.

## **Example 5 – Level crossing accidents (train striking road vehicle)**

- C7.1. Condition and operation of the train, including:
- a) train speed and handling;
  - b) driver's response to the accident (e.g. emergency brake application);
  - c) composition of the train;
  - d) the maintenance and failure history;
  - e) operation and effectiveness of the brakes.
- C7.2. The performance of the level crossing, including:
- a) design, type and condition of the level crossing;
  - b) the maintenance and failure history;
  - c) the history and findings of operations visits;
  - d) the level crossing risk assessments;
  - e) other relevant infrastructure matters (e.g. gradient).
- C7.3. Condition and operation of the signalling equipment, including:
- a) operation of the signalling system.
- C7.4. The performance of the road vehicle (as far as evidence is available), including:
- a) design, type and condition of road vehicle;
  - b) the maintenance and failure history.
- C7.5. The adequacy of the competency arrangements, i.e. the selection, training and on-going assessment, for any staff implicated in the incident.
- C7.6. The performance of the road vehicle driver (as far as evidence is available).



- C7.7. The adequacy of and compliance with the relevant rules, standards and instructions.
- C7.8. The adequacy of the response to the incident, including:
- a) post incident management;
  - b) completion of forms and reports (e.g. RT3185);
  - c) gathering of evidence (including preservation, downloading and interpretation of voice and data recordings);
  - d) post incident testing of crossing and signalling equipment;
  - e) drug and alcohol testing;
  - f) aftercare of the staff involved;
  - g) aftercare of the passengers involved.

## **Example 6 – Road vehicle incursions**

- C7.1. Condition and operation of the train, including:
- a) train speed and handling;
  - b) driver's response to the accident (e.g. emergency brake application);
  - c) composition of the train;
  - d) the maintenance and failure history;
  - e) operation and effectiveness of the brakes.
- C7.2. The performance of the infrastructure, including:
- a) ownership, design, type and condition of any incursion prevention or mitigation measures (e.g. crash barriers);
  - b) measures for the identification of risks of road vehicle incursion;
  - c) other relevant infrastructure matters (e.g. embankments).
- C7.3. Condition and operation of the signalling equipment, including:
- a) operation of the signalling system;
  - b) signaller's response (e.g. NRN emergency stop broadcast).
- C7.4. The performance of the road vehicle (as far as evidence is available), including:
- a) design, type and condition of road vehicle;
  - b) the maintenance and failure history.
- C7.5. The adequacy of the competency arrangements, i.e. the selection, training and on-going assessment, for any staff implicated in the incident.
- C7.6. The performance of the road vehicle driver (as far as evidence is available).

- C7.7. The adequacy of the response to the incident, including:
- a) response to reports of the incursion;
  - b) post incident management;
  - c) completion of forms and reports;
  - d) gathering of evidence (including preservation, downloading and interpretation of voice and data recordings);
  - e) drug and alcohol testing;
  - f) aftercare of the staff involved;
  - g) aftercare of the passengers involved.

## ***Example 7 – Environmental events***

- C7.1. The performance of the environmental protection measures, including:
- a) design, type and condition of oil interceptor;
  - b) the maintenance and failure history;
  - c) the contractual arrangements.
- C7.2. The pollution incident:
- a) the sequence of events leading to the pollution;
  - b) source of pollution.
- C7.3. The adequacy of the response to the incident, including:
- a) post incident management;
  - b) communications with the Environment Agency.

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