

Chris O'Doherty
RAIB Relationship and Recommendation Handling
Manager

Telephone: 020 7282 3752

E-mail: chris.o'doherty@orr.gsi.gov.uk



17 October 2013

Ms Carolyn Griffiths
Chief Inspector of Rail Accidents
Rail Accident Investigation Branch
Block A, 2nd Floor
Dukes Court
Dukes Street
Woking GU21 5BH

Dear Carolyn,

Incident at Llanbadarn Automatic Barrier Crossing (Locally Monitored), near Aberystwyth, 19 June 2011

I write to provide an update¹ on the consideration given and action taken in respect of recommendations 1, 5 and 6 addressed to ORR in the above report, published on 27 June 2012.

The annex to this letter provides details of the consideration given/action taken in respect of each recommendation in that:

- recommendation 1 is in progress - ORR to update RAIB by 28 February 2014
- recommendations 5 and 6 have been implemented

We do not propose to take any further action in respect of these recommendations unless we become aware that any of the information provided becomes inaccurate, in which case I will write to you again².

We expect to publish this response on the ORR website on We expect to publish this response on the ORR website on 31 October 2013.

Yours Sincerely
Chris O'Doherty

¹ In accordance with Regulation 12(2)(b) of the Railways (Accident Investigation and Reporting) Regulations 2005

² In accordance with Regulation 12(2)(c)

Recommendation 1

The intention of this recommendation is that high risk locally monitored automatic crossings in areas signalled by ERTMS [European Rail Traffic Management System] should be provided with an engineered safeguard to reduce the risk of train driver error.

Network Rail should develop an engineered safeguard to reduce the risk of trains being operated under ERTMS passing over locally monitored automatic crossings (i.e. AOCL [Automatic Open level, locally monitored] and ABCLs [Automatic barrier crossings, locally monitored]) when the crossings have not operated.

This solution should then be applied at Llanbadarn ABCL crossing and, if appropriate, at higher risk crossings on the Cambrian lines and as part of future ERTMS installations.

Assessments of risk should include an evaluation of human factors, previous history, including recorded incidents and accidents.

Previous response from Network Rail on 24 June 2013

1. *Network Rail is pursuing the Imposition of a temporary speed restriction over the crossing when the crossing is open to traffic, by means of the cab signalling system. A feature within the RTCS [Rail Train Control System] is that a temporary speed restriction can be imposed on a train by means of a track mounted balise group (x2) fitted in both directions over the crossing, without impacting on any movement authority carried by the train and in all modes of level 2 operation.*

Provision of a line side encoding unit at the level crossing allows a balise to impose a temporary speed restriction when the crossing is open to road traffic. When the crossing is closed to road traffic the LEU (lineside encoder unit) causes the balise to transmit a null message. A TSR value is to be defined by assessment to allow the train driver to visually check the view ahead to assess the situation to either continue over the crossing or to bring the train to a controlled stop at the DCI.

This option is planned to be in place by the end of 2013.

Update

2. ORR met with the Wales Route Senior Asset Engineer on 11 September 2013. At this meeting Network Rail provided an update on progress to address this recommendation.

3. Network Rail advised that the Route Asset Manager's team has met with Ansaldo (the ERTMS supplier) to discuss details of the proposal for an engineering solution for the Llanbadarn level crossing; this included the standard and compatibility of the equipment to be designed and installation timescales. Ansaldo were informed that, should this be successful, this would be regarded as a trial installation for similar installations at other sites.

4. Generally the response from Ansaldo was favourable. However; due to on-going commitments installation in December 2013 may not be achievable. Network Rail will continue to work towards this timescale whilst recognising the supplier's limitation.

ORR Decision

5. After reviewing all the information received and having met with Network Rail on 11 September 2013, ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has is taking the recommendation into consideration, however we need confirmation that the proposed actions have been completed by December 2013.

Status: *In Progress* - ORR to update RAIB by 27 February 2014

Recommendation 5

The intention of this recommendation is to clarify the type and quality of documents being submitted as part of a deviation (including derogation) from Railway Group Standards.

Network Rail should review its processes for seeking deviation (including derogation) from Railway Group Standards and Technical Specifications for Interoperability.

The review should include consideration of the extent and nature of the risk assessments that should be carried out and the supporting information provided, for each deviation request.

Brief Summary on what was previously reported to RAIB on 24 June 2013

6. ORR was not satisfied that the recommendation had been adequately addressed. ORR therefore wrote to Network Rail, on 28 May 2013, requesting further information on how Network Rail's process complies with MHSW Regulation 3 Risk Assessment.

Update

7. On 28 August 2013 Network Rail provided the revised response below:

Suitability of Network Rail's current arrangements

The requirement of this recommendation, and its intent, has been considered by experts within the Standards Management and Systems Engineering teams. Expertise was provided by those managing the processes for derogation and System Compatibility. Due consideration has been given to current Network Rail practice and adherence to industry prescribed processes; in particular RSSB Railway Group Standards and Department of Transport Railway (Interoperability) Regulations.

The review concluded that further guidance should be provided in order to strengthen all future applications for deviations, specifically regarding assessment and recording of risk. It was also agreed to include additional guidance to clarify the role of the 'applicant', to emphasise responsibility for the application of the approved deviation and action plan.

Professional Head Peer Review

A review has taken place between Network Rail's Director of Engineering, Professional Head of Signalling and Head of Asset Management & Railway Systems. A second review meeting has been held to consider the current arrangements detailed in Network Rail standard NR/L2/EBM/STP001/04, How to manage deviations to Network Rail and Railway Group Standards (Issue 5, Dec 2011 with specific regard to risk assessments and how they are recorded.

The review involved the Professional Head [Signals & Telecoms] (representing the Network Rail Professional Head community), the Head of Asset Management & Railway Systems, the National Standards Manager, the Corporate Investigation Manager, and the Action Tracking Coordinator. The review group has also held a further meeting that included the ORR's Principal Inspector of Railways, Railway Interface Manager and Inspector of Railways - Railway Interface to discuss proposals for changes to the standard.

The review group approved the following action plan:

Standards Change

NR/L2/EBM/STP001/04, along with its supporting Application Form (STP001/F045) will both be amended to incorporate the following guidance information:

- **NOTE*** - the applicant should make suitable and sufficient assessments of the risks to the health and safety of all persons affected by the proposed alternative approach.
- **NOTE*** - the applicant should record the findings of the risk assessment within the action plan provided as supporting documentation.
- **Applicant** - the proposer of a deviation to a standard. The proposer is ultimately responsible for the correct and thorough application of the alternative approach that results from the deviation.

*A NOTE in Network Rail standards is used to provide guidance on how to interpret a requirement and what approach should be used.

Publication of the revised Application Form was to have taken place by end of August 2013.

Due to the current moratorium on Network Rail standards change, publication and briefing to support implementation of the revised standard is not anticipated until the end of 2013. The revised standard will incorporate the enhanced guidance for applications for deviations, as well as agreed changes from the Business Critical Rules programme that will be required for the on-going management of the standards framework.

Briefing of Change

The briefing plans described below are designed to cover everyone involved in the risk assessment process. Points 1 through to 6 are aimed at the 'applicant', 'reviewer' and 'approver' activity. The 'additional' briefing material will be provided to the reviewers and approvers; this will help to provide a more robust quality control aspect to the application, and also to provide help and guidance (via case study examples) to improve the technical competence of applicants.

Briefings will be provided (via the TRACKER³ users' community) to inform all applicants, reviewers and approvers of the changes to the Application Form:

1. Of the responsibilities of the applicant, under the Common Safety Method, with regard to the correct and thorough application of the alternative approach.
2. To fully consider the extent and nature of the risk assessments that should be carried out for each deviation request, for example the inexperience of users of

³ TRACKER – computer database, maintained by the Network Rail Standards Management team, used in Network Rail for the recording and approval of deviations to Network Rail standards and Railway Group Standards.

the alternative approach, the form, range and use of new equipment or processes etc.

3. *To consider who should be involved in supporting the risk assessment, for example a Human Factors specialist etc.*
4. *To record the methodology used to conduct the risk assessment.*
5. *To record all of the findings of the risk assessment, including any considerations not taken forward to support alternative measures.*
6. *To include all supporting information and documentation within the deviation application using the 'Document Attachments' facility provided by TRACKER.*

Additional briefing material was to have been provided by end August 2013 to those Network Rail posts responsible for reviewing and approving applications for deviations. The briefing will be delivered as guidance to the Professional Head community, which will then in turn brief the Network Rail posts who have delegated authority to review and approve deviations to Network Rail standards, for example Route Asset Managers.

The briefing will include guidance on:

1. *Consideration of the overall quality of the deviation application with a particular focus on the thoroughness of the risk assessment.*
2. *The use of 'case study' good practice examples of previous applications for deviations to support development of technical competence for applicants.*

Common Safety Method

Risk assessments are currently managed using the professional status and experience of the applicants (e.g. Project Engineers), the reviewers (Senior Engineers), and approvers (e.g. Professional Heads), who use guidance and best practice as laid down in the Yellow Book for example.

Training is currently being rolled out to Network Rail staff to strengthen risk assessment capability and enable full understanding of the requirements of the Common Safety Method. This training will further enhance the quality of applications for deviations to standards through improved approaches and guidance to undertaking risk assessments and recording the necessary information. Training is currently being rolled out to Infrastructure Projects staff involved in deviation applications and training for Asset Management engineers (Professional Heads etc.). This is planned for delivery during September 2013 and will further help to ensure that risk assessments are considered and applied in all areas.

ORR Decision

8. After reviewing all the information received from Network Rail, ORR concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- taken the recommendation into consideration; and
- has taken action to implement it.

ORR will write to RAIB again if it becomes aware that the information above is inaccurate.

Status: *Implemented*

Recommendation 6

The intention of this recommendation is to ensure that location specific risks are considered when standards committees approve, and RSSB authorise, deviations (including derogations). The outcome of these considerations should be recorded.

RSSB should review and, if necessary, amend the processes and guidance applicable to Standards Committees and RSSB when taking decisions about applications to deviate from Railway Group Standards.

This should include:

- considering the provision of guidance for Standards Committees on how to make the necessary judgement about whether the risk assessment and supporting analysis is suitable and sufficient and the extent to which location specific risks should be taken into account; and
- guidance on how the basis of the Standards Committee's decisions should be recorded.

Brief Summary on what was previously reported to RAIB on 24 June 2013

9. On 19 April 2013 RSSB advised:

... In order to address the first part of recommendation 6, RSSB is currently developing a guidance for Standards Committees on how to make the necessary judgement about whether the risk assessment and supporting analysis is suitable and sufficient and the extent to which location specific risks should be taken into account.

This guidance will notably encourage applicants for deviations to use the method for risk management set out in the Common Safety Method on Risk Evaluation and Assessment (CSM on REA), whether or not the change proposed is formally 'significant', and will refer to the ORR guidance on it.

To inform the production of the guidance, ISCC debated the nature of the decisions standards committees are making when they approve a deviation. The attached presentations were used to introduce the debate.

When complete, the guidance for Standards Committees will be published on RSSB website and will therefore be available to Standards Committees members and to anybody considering applying or applying for a deviation against Railway Group Standards (RGS) requirement(s).

Update

10. RSSB provided further information on 2 July 2013 advising that:

RSSB consider these actions to be sufficient to be able to close the recommendation.

These actions are summarised below and the associated attachments.

RSSB provided ORR with copies of:

- *Llanbadarn Level crossing incident presentation*
- *Common Safety Methods on Risk Assessment presentation*
- *Decision taking on deviations presentation*
- *SGL104 'Standard Guide Item- Standards Committee minutes' document*

In RSSB's letter of 19 April 2013, RSSB noted that the first part of Recommendation 6 would be addressed by a guidance RSSB was developing for Standards Committees on how to make the necessary judgement about whether the risk assessment and supporting analysis is suitable and sufficient and the extent to which location specific risks should be taken into account.

To recap, addressing Recommendation 6 led to a reconsideration of the nature of the decision taken by Standards Committee(s) when they approve a deviation, and notably in how it relates to safety.

The Industry Standards Co-ordination Committee (ISCC) debated the nature of the decision taken by Standards Committee(s) when they approve a deviation. A presentation relating to the Llanbadarn level crossing incident was used to introduce the debate.

It became apparent that Standards Committee members do not decide whether the proposed alternative provisions are safe. Standards Committee members decide whether the applicant has used a suitable process to demonstrate that the proposed alternative provisions are capable of being safe.

RSSB has produced some guidance on deviations to support applicants and members of Standards Committee(s). This guidance is published on the RSSB website on the 'Deviations from Railway Group Standards' page.

This guidance specifically encourages applicants for deviations to use the risk management process set out in the Common Safety Method on Risk Evaluation and Assessment (CSM on REA), whether or not the change proposed is formally 'significant'. It refers to and provides a link to the ORR guidance on the CSM on REA.

This guidance also explains the decision taking principles set out in Railway Group Standards (RGSs) Code (the Code) and applied by Standards Committee members when considering deviation applications. The Code sets out the ORR-approved governance arrangements for the management of RGSs, which includes deviating from RGS requirement(s). The latest issue of the Code (issue Four) was approved by the ORR in February 2013 and came into force on 03 June 2013.

In addition, RSSB has reviewed and amended the guidance on how the basis of the Standards Committee's decisions should be recorded, in line with the second part of Recommendation 6. This guidance is contained in Standards Guide Item (SGI) 104 Standards Committee minutes (Issue 1, May 2013).

A more detailed version of this response is provided in Annex A.

RSSB has entered this response into SMIS for tracking purposes and have sent a copy to Simon French, Deputy Chief Inspector of the RAIB.

Annex A... /

Annex A – detailed RSSB response to ORR on Llanbadarn Recommendation 6

RAIB has published its rail accident report on ‘Incident at Llanbadarn Automatic Barrier Crossing (Locally Monitored), near Aberystwyth, 19 June 2011’.

In order to address Recommendation 6, the following questions need to be addressed:

1. What are the respective responsibilities of the applicant and Standards Committee(s) in the deviation application process?
2. What is the nature of the decision that the Standards Committee is taking when approving a deviation application?
3. What guidance should be provided to Standards Committees and applicants to support them in taking decisions in the deviation process?
4. What is the basis for the Standards Committee's decision?
5. How to record the Standards Committee's decision?

1. Responsibilities of the applicant and Standards Committee(s) in the deviation application process

A deviation is a permission to comply with a specified alternative to a requirement or requirements in a Railway Group Standard (RGS). A deviation application is therefore a proposed change to the railway system.

The person applying for a deviation (‘the applicant’) is proposing to implement this change. As a consequence, the applicant is responsible for assessing, through a suitable process, the predicted impacts of the change, notably on safety and technical compatibility.

The deviation process can be summarised as follows:

1. A person required to comply with an RGS requirement identifies that it is not reasonable, in particular circumstances, to comply with the RGS requirement on either a temporary or a permanent basis and therefore decides to consider applying for a deviation against the RGS requirement.
2. The person identifies the alternative provisions he would propose to adopt in place of the RGS requirement and assesses if they are reasonable, using a suitable process that includes:
 - a. Assessing the impacts of the proposed alternative provisions on the railway system
 - b. Conducting consultation with affected parties
 - c. Amending the proposed alternative provisions if necessary and repeats the above steps until he is convinced that the alternative provisions are reasonable.
3. The person decides to apply for a deviation application, documents his application and sends it to RSSB for consideration by the relevant Standards Committee(s).
4. The relevant Standards Committee(s) decides whether or not:
 - a. The deviation application is sufficiently complete to allow them to consider it.
 - b. The applicant has used a suitable process to decide that their proposed alternative provisions are capable of meeting the ‘essential requirements’

(safety, reliability and availability, health, environmental protection and compatibility).

c. The alternative provisions are in the long-term best interests of the railway system as a whole.

5. If the deviation application is approved by Standards Committee, the applicant is responsible for

a. Informing the affected parties (namely, those with whom he consulted)

b. Implementing the alternative provisions safely

c. Checking that the alternative provisions actually meet the essential requirements and achieve their intention

d. Ensuring that the alternative provisions continue to meet the essential requirements.

2. Nature of the Standards Committee's decision

Addressing Recommendation 6 led to a reconsideration of the nature of the decision taken by Standards Committee(s) when they approve a deviation, and notably in how it relates to safety.

The Industry Standards Co-ordination Committee (ISCC) debated the nature of the decision taken by Standards Committee(s) when they approve a deviation. A presentation referring to Llanbadarn level crossing incident was used to introduce the debate.

It became apparent that Standards Committee members do not decide whether the proposed alternative provisions are safe. Standards Committee members decide whether the applicant has used a suitable process to demonstrate that the proposed alternative provisions are capable of being safe.

In the same way, before applying for a deviation the applicant decides whether the proposed alternative provisions are reasonable, which includes a demonstration that they are capable of meeting the essential requirements (including safety). He is then responsible for implementing the alternative provisions safely, checking that they are safe and ensuring that they remain safe.

3. Guidance provided to Standards Committees and applicants

The key question for the applicant is therefore 'which process to use to demonstrate the alternative provisions are capable of being safe?'

The Common Safety Method on Risk Evaluation and Assessment (CSM on REA) is a suitable and sufficient risk management process that allows the applicant to identify all the hazards created by his proposed change and guides him to identify how to close them.

RSSB has produced some guidance on deviations to support applicants and members of Standards Committee(s) and has published it on the RSSB website on the 'Deviations from Railway Group Standards' page. This guidance specifically encourages applicants for deviations to use the method for risk management set out in the CSM on REA, whether or not the change proposed is formally 'significant'. It refers to and provides a link to the ORR guidance on the CSM on REA.

The guidance produced by RSSB sets out a summary of the deviation process and highlights the main responsibilities and considerations for both the applicant and the members of Standards Committee(s) in the deviation process. This guidance is also directly accessible from the deviation application form that an applicant must use when applying for a deviation. This form has been revised, and requires an applicant to explain the predicted impacts on safety and technical compatibility of the railway system of the railway system of the proposed alternative provisions in place of the RGS requirement(s). The form specifies that the explanation should include any relevant supporting documents, which may (where appropriate) include a risk assessment.

4. The basis for the Standards Committee's decision (the decision taking principles)

The Railway Group Standards (RGSs) Code (the Code) sets out the ORR-approved governance arrangements for the management of RGSs, which includes deviating from RGS requirement(s). The decision taking principles applied by Standards Committee members when considering deviation applications are therefore set out in the Code.

The Code has been recently revised and Issue Four was approved by the ORR in February and came into force on 3 June 2013. As part of the revision of the Code, the decision taking principles have been clarified and now explicitly apply to deviation applications, whereas this was not necessarily evident in the previous issue of the Code (Issue Three).

The decision taking principles for deviations are now set out as follows in clause 5.2.1 of Issue Four of the Code:

5.2.1 In taking decisions related to requirements, including decisions on [...] deviations from requirements in RGSs, Standards Committees shall only approve solutions which:

a) Enable the railway system and its subsystems to meet the essential requirements...

The essential requirements are defined in clause 2.1 of the Code as those set out in the Railway Interoperability Directive 2008/57/EC. They are safety, reliability and availability, health, environmental protection and compatibility.

Following approval of the Code by the ORR, RSSB held a series of briefing sessions for members of Standards Committees. These briefing sessions included presentations on:

- The revision to the Code and the Manual (by RSSB)
- The CSM on REA (by the ORR)
- Decision taking on deviations (by RSSB)

5. Recording the Standards Committee's decisions

The 'guidance on how the basis of the Standards Committee's decisions should be recorded' is contained in Standards Guide Item (SGI) 104 Standards Committee minutes (Issue 1, May 2013).

SGIs are a series of papers that have been developed to assist RSSB staff in applying the Code and Standards Manual, and RSSB's associated internal

procedures and processes. SGIs are a compendium of explanations and examples, which are added to as and when the need for an explanation or example is identified.

Issue Three of the Standards Manual places a responsibility on RSSB to provide a person to be the secretary for each standards committee (clause 10.1.1.a). The Standards Manual (clause 10.2.1) also requires the minutes to include a record of the rationale for each decision made in that meeting, or a reference to where the record of the rationale may be found.

SGI104 therefore assists RSSB staff in delivering the requirements the Standards Manual places on the secretary when producing minutes of Standards Committee(s) meetings.

By publishing SGI104, RSSB has reviewed and amended the guidance on how the basis of the Standards Committee's decisions should be recorded, in line with the second part of Recommendation 6.

ORR Decision

11. After reviewing all the information received from Network Rail, ORR concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- taken the recommendation into consideration; and
- has taken action to implement it.

ORR will write to RAIB again if it becomes aware that the information above is inaccurate.

Status: *Implemented*