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12 August 2014

Ms Carolyn Griffiths  
Chief Inspector of Rail Accidents  
Cullen House  
Berkshire Copse Rd  
Aldershot  
Hampshire GU11 2HP

Dear Carolyn,

**RAIB Report: Fatal accident at Mexico footpath crossing (near Penzance), 3 October 2011**

I write to provide an update<sup>1</sup> on the action taken in respect of recommendations 2 and 3 addressed to ORR in the above report, published on 20 June 2012.

The annex to this letter provides details of the action taken. The status of each recommendation is:

- Recommendation 2: *In-progress*. ORR will update RAIB by 30 January 2015
- Recommendation 3: *In-progress by alternative means*. ORR will update RAIB by 30 January 2015. (Non-implementation of decision points.)

We will publish this response on the ORR website on 22 August 2014.

Yours Sincerely,

Chris O'Doherty

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

## Recommendation 2

*The intent of this recommendation is for RSSB to consider what additional data needs to be captured within SMIS [Safety Management Information System] to allow a full evaluation of risk at level crossings and to use it, together with any other relevant data, to enhance its current processes for reviewing the effect of the change made in April 2007 to sounding only the low tone of the train horn for passive crossings between 07:00 hours and 23:00 hours.*

RSSB should:

- a. identify any additional data that should be captured within SMIS from accidents and near-miss incidents to inform future safety decision-making about level crossings and make the necessary arrangements for that data to be collected by duty holders; and
- b. using the data obtained from implementing part a of this recommendation and any further intelligence contained within SMIS or other sources, enhance its current approach to reviewing the impact of the change to sounding only the low tone of the warning horn for whistle boards at level crossings between 07:00 hours and 23:00 hours and take actions, if appropriate.

### **Brief Summary on what was previously reported to RAIB on 17 October 2013**

*...Network Rail is in the process of creating a list of around 7,000 level crossings complete with all relevant data (including ALCRM ID) that will be used to populate the level crossing register in SMIS. Network Rail forecasts that this list will be ready mid-August [2013], with a release date into SMIS of early to mid-September 2013.*

*To ensure accuracy, the data will be refreshed by Network Rail by automatic data transfer in March next year [2014]. Once this phase of the work has been finished recommendation 2(b), the analysis of near miss accident data, can be addressed.*

### **Update**

1. On 4 April 2014, ORR wrote to RSSB asking for an update on actions being taken to address this recommendation. On 15 May 2014 RSSB stated that:

*RSSB is working with Network Rail to link SMIS level crossing locations with the location descriptions in the ALCRM, such that SMIS incident data can be linked to specific locations and asset features. We noted too that the work has since become part of Network Rail's Level Crossing Transparency project.*

*Network Rail has now created a list of around 7,000 level crossings complete with all relevant data (including ALCRM ID). This will now been used to populate the level crossing register in SMIS, with the project starting in June*

2014. RSSB will then address Recommendation 2(b) – i.e., the analysis of near miss and accident data – as intended. The timescales for the completion of the analysis will be reported to the ORR once all the data has been populated and the extent of the analysis required has been established.

2. On 6 May 2014, ORR met with Network Rail and expressed concern that the new level crossings register did not actually incorporate any whistle-board information. On 28 May 2014 Network Rail stated that:

*The ability of RSSB to link level crossings in SMIS to level crossings in ALCRM will be resolved as part of the work to update the SMIS register, linking the I.D. used by each system. Network Rail is awaiting confirmation of the format in which RSSB needs this data to be able to input it into their system. Once RSSB has clarified this, which is due to be agreed at a meeting taking place at RSSB on 29 May, the data to enable the SMIS register to be updated and linked to level crossings in ALCRM will be sent to RSSB. Ultimately, SMIS will hold ALCRM ID's and exports from ALCRM which will be able to be linked to SMIS ID's.*

*Following our meeting, Network Rail has been in touch with RSSB concerning the provision of ALCRM whistle board data. This information was provided to RSSB earlier today. The information provided consists of a download from ALCRM including:*

- *Level crossing SMIS ID*
- *Crossing name*
- *Whistle board distances. Whistle boards fitted / not fitted*
- *Date of whistle board fitment (approximate)*
- *Traverse time*
- *Census data*
- *Train speed*

*Providing the SMIS ID will enable RSSB to link the data to the SMIS register. This can be supplemented with any further information that RSSB request using the same SQL query<sup>2</sup>.*

*Until system integration is automated, Network Rail has a semi-manual system in place that will report and identify ALCRM changes that impact on the SMIS data. Network Rail will provide updates of such changed data to RSSB as required.*

*The system integration project team have advised that the automatic transfer of data will commence rollout from August 2014. Automation will be increased to cover additional systems, including SMIS, by the end of 2014.*

*Note: The automatic transfer of data to SMIS will not occur before the end of 2014. Network Rail is only able to effect automatic transfer of data into SMIS if SMIS has a place in which it can store the data. Whistle board data is not*

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<sup>2</sup> special-purpose programming language designed for managing data held in a relational database

*currently held in SMIS. Unless RSSB decides to make changes to SMIS, Network Rail will not be able to automatically update whistle board data. If RSSB makes changes to SMIS so that it holds whistle board data, Network Rail will update it automatically. If this does not happen (or until it does), whistle board data will remain in the category of 'additional information'. Network Rail will automatically extract it from ALCRM and manually send it to RSSB in spread sheet form.*

### **ORR Decision**

3. Network Rail has now provided to RSSB the information that is necessary for it to undertake work to meet the recommendation. In time that information will be automatically updated to RSSB. We will continue to monitor and update RAIB.

**Status: *In-progress.*** ORR will update RAIB by 30 January 2015

### **Recommendation 3**

*The intent of this recommendation is for Network Rail to undertake a project to develop and implement a national approach to the location and marking of decision points and the measuring of sighting distances at level crossings. This work should be expedited and undertaken as a discrete exercise rather than as part of the three-yearly crossing risk assessment cycle and take account of the emerging findings from RSSB research project T984 'Research into the causes of pedestrian accidents at level crossings and potential solutions' where relevant.*

Network Rail, in conjunction with RSSB where appropriate, should undertake a project to develop a standard national approach to:

- identifying the optimum decision point at each footpath and user worked crossing used by pedestrians;
- marking and signing the optimum decision point at each crossing;
- using that decision point in estimates of sighting distance at footpath and other crossings; and
- briefing staff involved in crossing risk assessment with regard to the approach.

When addressing issues in relation to the marking of decision points, Network Rail should liaise with RSSB on emerging findings from research project T984 'Research into the causes of pedestrian accidents at level crossings and potential solutions', and give consideration to the need to draw upon relevant elements of that research project to inform the development of the national approach. In this context RSSB should prioritise those elements of research project T984 that deal specifically with the marking of decision points, so that they are completed at an early stage in the programme. Once the approach

has been developed, Network Rail should implement a programme to review and modify crossings.

### **Brief Summary on what was previously reported to RAIB on 17 October 2013**

*The initial finding relating specifically to decision points were expected from RSSB in April 2013. This date was then amended to June 2013 but by October the report had still not been produced. However a briefing meeting was held in April 2014 at which ORR and RAIB were present where the outline findings were discussed.*

4. ORR concluded that: The Network Rail actions to address the issue will not be easy or straightforward, as the research concluded that:

- members of the public do not understand the concept of decision points;
- there could not be a single decision point as it very much depended on the characteristics of the level crossing and the individual;
- members of the public carry out a dynamic assessment as they approached the crossing;
- most people looked at the ground to avoid falling over rather than looking for trains; and
- a high percentage of people did not look for trains at all.

### **Update**

5. RSSB published the interim research brief and report on decision points at the end of 2013.

6. On 13 January 2014 ORR wrote to Network Rail asking for details on how it intends to implement the findings of the report. On 13 May 2014, Network Rail provided ORR with a copy of its 'Recommendation Owners' Form' which stated:

*Network Rail along with other industry partners, such as the ORR, has been working collaboratively with the RSSB (under RSSB research project T984 'Research into the causes of pedestrian accidents at level crossings and potential solutions') in order to develop a standard national approach to;*

- *Identify the optimum decision point at footpath and user worked crossings used by pedestrians; and*
- *Marking and signing the optimum decision point.*

*The RSSB research project prioritised those elements of T984 that deal specifically with the marking of decision points.*

*The key finding from the research is that level crossing users do not understand or adhere to the concept of decision points and instead, the*

*report recommends marking the danger zone instead. The publication of the report closes out these elements of the recommendation.*

*The only remaining open element of the recommendation is for Network Rail to implement a programme to review and modify crossings accordingly i.e. identify and mark the optimum decision point. However, this goes against the conclusions of the RSSB research paper.*

*It is proposed that Network Rail carry out a trial of marking the danger zone at footpath or bridleway crossings instead and report the results to the Level Crossing Strategy Group (LCSG), including associated costs, for the LCSG to decide on the way forward. The aim is to report back to the LCSG on 27 March 2014.*

*Network Rail will continue to use the methodology of identifying decision points to support safety design purposes i.e. in order to provide sufficient sighting distances at passive level crossings, allowing users to safely traverse the level crossing.*

7. On 20 March 2014, ORR wrote to Network Rail asking it for a strategy on how it proposes to implement improvements to passive crossings? On 5 June 2014 Network Rail stated that:

*ORR and Network Rail have discussed this recommendation [along with recommendation 2 of the RAIB report of a collision between an articulated tractor and a passenger train at Sewage Works lane user worked crossing]. The outcome of the discussion is for Network Rail to provide ORR with a strategy on implementing improvements to passive level crossings.*

*Completion of the strategy will involve long term activity, relating to several recommendations, and will aim to rectify legacy issues at passive level crossings. Potentially, works that take place under the strategy will not be completed until later control periods.*

*Discussions have taken place with the ORR concerning our joint long term aspirations to address legacy issues at passive level crossings. The ORR has raised the need for Network Rail to have a joined up long term strategy for these issues. Network Rail has committed to develop the strategy. Once it has been consulted and agreed, the ORR has indicated that they will be willing to accept closure of this and other related recommendations. Network Rail will then report progress on implementing the strategy which will be tracked via regular liaison with ORR.*

*An extension has already been sought to Mexico recommendation 5 until 30 November 2014 to allow time for the development of and consultation on the strategy. The strategy also links to recommendations Sewage Works Lane 2 and Mexico 3. Therefore, it is anticipated that updates on these recommendations will also be available at the end of November 2014.*

## **ORR Decision**

8. Network Rail will not be managing the risk using 'decision points', as suggested by RAIB, as the key preliminary findings from the RSSB research (T984) was that level crossing users do not understand or adhere to the concept of decision points. We understand that the final report, expected to be published before the end of the year, will recommend marking 'the danger zone' instead.

9. Network Rail will be trialling marking the danger zone at footpath or bridleway crossings instead to address the risk by alternative means. The decision to cross should be made before reaching this area and the danger zone should prompt pedestrians that they are entering an area where they are at risk of being struck by trains.

10. Network Rail will continue to use the methodology of identifying decision points to support safety design purposes.

11. Initial findings from the T984 research indicate that:

- Members of the public do not understand the concept of decision points
- It is not appropriate to mark the optimum decision point at each crossing as there could not be a single decision point; as it dependent on the characteristics of the level crossing and the individual;
- Members of the public carry out a dynamic assessment as they approach the crossing;
- Most people looked at the ground to avoid falling over rather than looking for trains; and
- A high percentage of people did not look for a train at all.

12. ORR is in support of the initial findings of the T984 project and Network Rail's subsequent proposed work to address the risk by alternative means. ORR will continue to monitor Network Rail's actions to develop and implement a national approach to effectively manage pedestrian crossing risks.

13. ORR await further information from Network Rail to show how it intends to implement alternative measures to address this risk and anticipate being able to provide a further update to RAIB by 30 January 2015.

***Status: In-progress by alternative means. ORR will update RAIB by 30 January 2015. (Non-implementation of decision points)***