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20 August 2020

Mr Andrew Hall  
Deputy Chief Inspector of Rail Accidents  
Cullen House  
Berkshire Copse Rd  
Aldershot  
Hampshire GU11 2HP

Dear Andrew,

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

I write to provide an update<sup>1</sup> on the action taken in respect of recommendation 5 addressed to ORR in the above report, published on 20 June 2012.

The annex to this letter provides details of actions taken in response to the recommendation and the status decided by ORR. The status of recommendation 5 is '**Implemented**'.

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

We will publish this response on the ORR website on 21 August 2020.

Yours sincerely,



Oliver Stewart

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

## Recommendation 5

*The intent of this recommendation is for Network Rail to conduct a network-wide project to optimise warnings for pedestrians at level crossings equipped with whistle boards, taking account of emerging technology and the ability to generate local warnings audibly or visually.*

Network Rail should conduct a review of the arrangements for providing warnings for pedestrians at level crossings currently equipped with whistle boards. The review should address:

- a. the costs and benefits at each crossing of providing audible or visual warnings at the crossing itself rather than by approaching trains (taking account of the possibility of the significantly reduced costs of visual warnings); and
- b. at crossings where whistle boards will remain, whether the position of the board at each crossing has been optimised taking account of all relevant local factors including (but not limited to) prevailing wind, local topography, sources of noise and the traverse time for crossing users and the positive and negative effects on railway neighbours.

## ORR decision

1. Network Rail have confirmed that the review of arrangements for providing warning to pedestrians at level crossings equipped with whistle boards has been completed for all routes. Network Rail has developed technology to provide an automatic audible warning at crossings (Meerkat) which will be used alongside other active warning technologies to replace whistle boards.

2. Network Rail also has now published its level crossing strategy<sup>2</sup> in March 2020, which was part of the evidence it provided in its closure statement to prove that the recommendation was implemented. The strategy commits Network Rail to working towards eradicating whistle boards from the network.

3. We are also monitoring the revision of the Cost Benefit Analysis tool, which builds on work completed for this recommendation and for the CP6 funding requests.

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

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

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<sup>2</sup> <https://www.networkrail.co.uk/wp-content/uploads/2020/03/Enhancing-Level-Crossing-Safety-2019-2029.pdf>

**Status: Implemented.****Previously reported to RAIB**

5. On 28 October 2014 ORR reported the following

“Network Rail has given ORR an assurance that where any whistle-board was not in the appropriate place to provide adequate sighting a speed restriction or other mitigations have been imposed to achieve the necessary warning times. The speed restrictions will remain in force until the whistle boards are either moved to the optimum position or active warning systems are commissioned at the crossing.

The Network Rail passive crossings strategy remains under development and will identify timescales for the commissioning of active warning systems at passive crossings over a number of control periods.

An ORR inspection programme will be undertaken to confirm the accuracy of the Whistle Board data presented by Routes and to inspect a selection of crossings to ensure there is adequate time to cross safely. ORR will also be monitoring Network Rail as it develops its crossing strategy to identify how and when active warning systems will be commissioned at passive crossings (including whistle board crossings) over the coming control periods.”

**Update**

6. Following timescale extensions, Network Rail provided the following closure statements on 24 October 2017:



Mexico 5 - Closure statement - October closure documentat



Mexico 5 CMO

7. Network Rail state the following:

*Network Rail has completed three separate actions to address this recommendation. These are:*

1. *On-site assessment of all whistle boarded crossings to determine the appropriateness and effectiveness of whistle boards as a control measure. In so doing, criteria has been taken into account at each crossing which includes:*
  - a. *ambient noise and noise from lineside neighbours*
  - b. *audibility of train horns*
  - c. *traverse time for users*
  - d. *timing of the warnings given*
  - e. *known night-time usage*
  - f. *rolling stock and speed of rolling stock*
2. *Rectification action has been undertaken where whistle boards are deemed ineffective as a control measure or are ineffective in their current position.*

*This includes the delivery of interim and long-term plans to manage risk through other means (e.g. TSR, user based warning system) through to optimising the current position of whistle boards.*

3. *Carrying out cost benefit analysis (CBA) of whistle boarded crossings to determine wholesale benefit to cost ratio of installing user based warnings at whistle boarded crossings; taking account of new lower cost technologies – wayside horn and overlay MSL and future technologies such as project Meerkat.*

*These actions also fed into the CP5 level crossing risk reduction programme and are firmly within the company's long-term vision-led level crossing safety strategy. This is illustrated below.*

***The following work has been undertaken to enable Network Rail to close point a. of the recommendation.***

*A cost benefit analysis exercise was conducted at a national level in 2014. The output featured within a paper presented to the ORR. The paper identified how an element of the £99m fund allocated for Level Crossing Risk Reduction in CP5 is intended to be spent for safety improvements, rather than closure. This proposal was accepted by the ORR and solutions such as wayside horn and overlay MSL are incorporated within the Routes risk reduction portfolios in CP5. Cost benefit analysis was further used to support the identification of candidate crossings targeted for improvements*

*Network Rail has also developed its long-term vision-led level crossing safety strategy Transforming level crossings which targets safety improvements between 2015 and 2040. The strategy has a significant focus toward passive crossing safety and sets out several determinations relating to whistle board protection to which Network Rail seeks to deliver. These are:*

- *By 2019 all whistle boarded crossings with known use during the night-time quiet period will be equipped with train detection warning systems.*
- *By 2025 all whistle boards will have either been replaced or will be supported by automatic user-based warning systems.*

*Routes are currently in the throes of finalising CP6 safety plans which support these strategic objectives as well as satisfying broader determinations.*

*The above activities are additional to existing continual risk management activity across all level crossings on the network.*

***The following work has been undertaken to enable Network Rail to close point b. of the recommendation.***

*In accordance with point 1 and point 2 of the above actions, an extensive review of all whistle board protected crossings on the network commenced in June 2014. In*

*support of this, the Central Level Crossing Team developed level crossing guidance document LCG 05 Whistle board effectiveness and provision – issue 1. This guidance, together with a template approach, provided a consistent standard of assessment across the business.*

*By December 2016 all Routes with the exception of LNE and Wales had confirmed to the Central Level Crossing Team that their whistle board protected crossings:*

- are effective in providing audible and timely warning of approaching trains; or*
- are currently ineffective and require optimisation work to reposition whistle boards so as to be effective, risk in the interim managed through other means for example temporary speed restrictions (TSRs); or*
- are deemed ineffective as risk controls and require delivery of long-term solutions such as wayside horn or overlay miniature stop lights (MSLs); risk in the interim managed through other means for example TSRs.*

*By May 2017, both LNE and Wales Routes joined with the other Routes in confirming the above requirements were met.*

*Network Rail is now able to confirm that whistle boards across the network have been assessed as:*

- effective and compliant; or*
- have interim solutions in place pending either optimisation of whistle boards or delivery of long-term measures; or*

*have had long-term measures implemented as support to or replacement for whistle boards.*

## Previously reported to RAIB

### Recommendation 5

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Network Rail should conduct a review of the arrangements for providing warnings for pedestrians at level crossings currently equipped with whistle boards. The review should address:

- c. the costs and benefits at each crossing of providing audible or visual warnings at the crossing itself rather than by approaching trains (taking account of the possibility of the significantly reduced costs of visual warnings); and
- d. at crossings where whistle boards will remain, whether the position of the board at each crossing has been optimised taking account of all relevant local factors including (but not limited to) prevailing wind, local topography, sources of noise and the traverse time for crossing users and the positive and negative effects on railway neighbours.

### Brief Summary on what was previously reported to RAIB on 19 November 2013

1. Network Rail provided a progress update stating that:

***Phase 1 – Technology Development:*** *Five suppliers had been selected. And a project team was on-board with investment having been sourced in November 2013 to progress to trials. The target approval date for all technologies that have entered the product acceptance process with Network Rail is by March 2014.*

***Phase 2 – Whistle-Board Landscape and Effectiveness as Mitigation:*** *Approximately 47% of crossings with whistle boards appear, according to the data, to be non-compliant nationally. Network Rail expected to have detailed site by site action plans by 31 December [2013] for non-compliant sites.*

#### ***Phase 3 - Works delivery and implementation.***

*Network Rail expected to be able to confirm timescales for implementation and delivery once action plans became available on 31 December [2013] – update mid-January 2014.*

*Network Rail anticipated product acceptance for new technology solutions by March 2014. At this point, the Routes would be responsible for developing business cases for individual sites and delivering those where it is reasonably practicable.*

### Update

2. On 29 May 2014, Network Rail advised a timescale extension to 30 November 2014:

*All elements of the recommendation relating to Network Rail conducting a review of the arrangements for providing warnings for pedestrians at level crossings currently equipped with whistle boards have been completed. However, the assessment of whistle board effectiveness has highlighted the need for additional works including whistle board replacement with train detection and on site warning system.*

*From responses received from the Routes to date [652 crossings], an indication of the numbers of sites affected is:*

- 60 sites – move whistle boards to optimise their position
- 41 sites – replace whistle boards with another form of warning
- 69 sites – sighting is compliant, whistle boards can be removed

*Completion of these additional works will involve long term activity (this is linked to other long term activity to rectify legacy issues at passive crossings), potentially not being completed until later control periods. Discussions have taken place with 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. The extension request is designed to allow Network Rail to define the strategy and begin implementation. Once it has been consulted and agreed the ORR has indicated that it will be willing to accept closure of this and other related recommendations. Network Rail will then report progress in implementing the strategy which will be tracked via regular liaison with ORR.*

*Revised planned completion date: 30 November 2014.*

### **ORR Decision**

3. Network Rail has given ORR an assurance that where any whistle-board was not in the appropriate place to provide adequate sighting a speed restriction or other mitigations have been imposed to achieve the necessary warning times. The speed restrictions will remain in force until the whistle boards are either moved to the optimum position or active warning systems are commissioned at the crossing.

4. The Network Rail passive crossings strategy remains under development and will identify timescales for the commissioning of active warning systems at passive crossings over a number of control periods.

5. An ORR inspection programme will be undertaken to confirm the accuracy of the Whistle Board data presented by Routes and to inspect a selection of crossings to ensure there is adequate time to cross safely. ORR will also be monitoring Network Rail as it develops its crossing strategy to identify how and when active warning systems will be commissioned at passive crossings (including whistle board crossings) over the coming control periods.

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

- has taken the recommendation into consideration and
- is taking action to implement it. (Completion date: 30 November 2014)

**Status: In-progress.** ORR will update RAIB by 31 January 2015