

**Russell J Keir**

HM Inspector of Railways  
Telephone: 020 7282 3719  
e-mail: Russell.keir@orr.gsi.gov.uk

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

Dear Carolyn,

**RAIB Report: Investigation into the safety of automatic open level crossings**

I write to provide an update<sup>1</sup> on the action being taken in respect of recommendations 1 and 4 addressed to ORR in the above report, published on 28 July 2011.

The annex to this letter provides details of the action being taken. The status of these recommendations is '**Implementation on-going**'.

ORR will continue to monitor progress and will advise RAIB when actions being taken to address these recommendations have been completed.

We will publish this response on the ORR website on 2 March 2015.

Yours sincerely,

Russell J Keir

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

## Recommendation 1

*The intention of this recommendation is that Network Rail should upgrade the highest risk AOCLs [Automatically Open Crossing Locally Monitored] by fitting barriers, or implementing other measures to deliver an equivalent or improved level of safety, such as by closing crossings.*

*The RAIB envisages that when identifying those crossings to be upgraded, special consideration should be given to those 32 crossings with an enhanced likelihood of a road vehicle and train collision (listed at appendix D of the RAIB's report). However, it is anticipated that Network Rail's more detailed assessment of risk, taking into account factors such as the speed of trains, may identify different and/or additional crossings for upgrade.*

*The RAIB is aware that Network Rail's development of retrofit half barriers should allow a cost effective upgrade, but if this development is not completed and proved in the near future, the upgrading of the highest risk AOCLs should still be implemented based on existing forms of level crossing protection.*

*In addition, the RAIB is of the view that the implementation of a programme to upgrade AOCL crossings should not be delayed by the need to review and improve existing risk assessment management arrangements (as outlined in Recommendation 3).*

Network Rail should immediately implement a programme to upgrade the highest risk AOCLs. The crossings for upgrade should be selected by appropriately skilled personnel, on the basis of factors that include:

- Past record of incidents and accidents;
- An assessment of risk and the safety benefit of the upgrade; and
- The human factors issues present at each.

Upgrades should consist of fitting barriers or other measures delivering an equivalent or improved level of safety.

## Brief Summary on what was previously reported to RAIB on 19 June 2014

Revised timescale: 31 September 2014

### Update

1. On 17 October 2014, Network Rail provided reasoning for extending the timescale further to address this recommendation:

*Original Planned Completion Date: 30 September 2014*

*Revised Planned Completion Date: 28 February 2015*

#### *Reason for Extension*

*The extension is to factor in revised commissioning dates of the remaining level crossings included in the project.*

*This project is installing overlaid half barriers at Automatic Open Crossing Locally Monitored (AOCL) level crossings. The underlying crossings will still be an AOCL crossing but their appearance will be similar to an Automatic Barrier crossing locally monitored (ABCL), with users of the level crossing now seeing half barriers as well*

as the existing red lights. The FWI [Fatal and Weighted Injuries] Benefit for this project is 0.12 FWI/year.

The current status is that 24 of 46 locations in England and Wales are now complete, and Scotland is fully complete.

Seven of the nine remaining locations on the LNE Route will be completed by the 10th November [2014], with two more locations, which have yet to have the scheme plans approved, estimated to be complete by the 8th December. In Anglia all locations will be commissioned by the 19th December [2014] and two remaining sites in Wales commissioned by 31st December [2014].

Difficulties have been encountered with design resource, extensive network change, Route specific issues, such as technical queries, records availability and works delivery performance. To address this extra design resource and subcontracts have been utilised, sponsorship in Anglia has been transitioned to the Route so that locally emerging issues can be dealt with more quickly, and other Route specific problems have been escalated to the Route Managing Director, which has now improved performance.

The extension until the 28 February 2015 is to take into account the revised timescales and allow the project time to demonstrate evidence of project closeout.

RAIB identified crossings which are not being fitted with the barrier overlays (as of 29 July 2014).

- Delny and Dingwall No 1 are to be closed.
- Garve and Halkirk are converted to ABCL crossings.
- Fishguard Harbour is on a private road and is not suitable for the overlay of a barrier, the project team are considering the road layout configuration and the crossing is planned for renewal in CP5.
- Chapel, there is insufficient land surrounding the crossing to accommodate barriers.
- Coswarth, commissioning has been deferred as there is a trapping point with the counter weight and a dry stone wall. Network Rail is looking to demolish the wall and rebuild it however it is not their wall or land.
- Plassers, the renewal of the crossing has been transferred to Crossrail. Red light enforcement cameras are planned for this site.
- Burnside Lower crossing is unsuitable for the overlay. The existing crossing is an open crossing with flashing lights added rather than an AOCL. It would need a full renewal to ABCL rather than enhancement to AOCL+B.

At a meeting with Network Rail on 5 February 2015, ORR received information that 61 of 66 sites within scope for enhancement to AOCL+B in England, Wales and Scotland have been commissioned,

15 sites have been descoped and reasoning was provided for each, as follows

- Allens (Wales Route) – proposed downgrade to UWC
- Burnside Lower (LNW), closure being sought
- Chapel (Western), closure being sought
- Delny (Scotland), closure being sought
- Dingwall No.1 (Scotland), closure being sought
- Fishguard Harbour (Wales), closure being considered
- Forden (Wales) downgraded to footpath crossing
- Garve (Scotland), upgraded to ABCL
- Guisborough Road (LNE), assertion that lightly used
- Halkirk (Scotland), upgraded to ABCL
- Regents Road (LNW), crossing within private port, negotiations ongoing
- Sandscale (LNW), upgraded to ABCL
- Talwrn Bach (Wales), unforeseen underground conditions require significant work, to be addressed by upgrade to ABCL in 2016
- Toton No.4 (East Midlands), not on the public highway and Route seeking solution to complex traffic layout
- Weig Lane (Western), upgraded to MCB CCTV

ORR asked for further details regarding certain of the sites that have been descoped and will review the information that is provided for justification.

### **ORR Decision**

2. ORR is satisfied with the reasoning supporting an extension in the timescale for commissioning of AOCL+B.

3. 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.

**Status: Implementation on-going.** *ORR will continue to monitor progress and will advise RAIB when actions being taken to address this recommendation have been completed.*

### **Recommendation 4**

*The intention of this recommendation is to make sure that the development of digital red light enforcement equipment is not delayed unnecessarily and that it is installed at selected AOCLs with a high incidence of violations:*

In collaboration with the police, Network Rail should, without unnecessary delay, complete the development of digital red light enforcement equipment and install it at selected AOCLs which have high levels of violations.

#### **Brief Summary on what was previously reported to RAIB on 19 June 2014**

Revised timescale: 1 August 2014 Due to Protracted Home Office Type Approval (HOTA) processes, design complexities and political change in Scotland impacting establishment of back office in Scotland.

#### **Update**

4. On 6 August 2014, Network Rail provided reasoning for extending the timescale further to address this recommendation:

*The Red Light Safety Equipment (RLSE) scheme aims to equip 28 high risk level crossings (AOCL, AOCL+B and AHB) spanning England, Wales and Scotland. RLSE is composed of 2 digital automated enforcement camera installations per crossing that automatically detect red light violations by the production of encrypted evidence packages, that are securely transmitted to a central processing (external) centre, where they are processed into formal Section RTA 172 COFPN's (Conditional Offer of Fixed Penalty Notice). These are then issued to the offending vehicle's registered keeper. Network Rail's involvement in this process is not required, although a representative of the BTP will be on hand to provide assistance for offence development where offenders are proving elusive.*

*RLSE is a research and development project that involves the development of 3 camera solutions by three different equipment manufacturers. Each of these systems are subjected to rigorous Home Office Type Approval processes that ensure that UAEE (Unattended Automatic Enforcement Equipment) is fit for purpose and does not pose a risk to successful criminal prosecution enforcement, reputational and / or legal liability that could lead to significant financial implications.*

**Progress:** *Network Rail is currently in the construction phase where the camera equipment and supporting infrastructure is being installed at the level crossings. In parallel to this the Home Office Type Approval process and the back office processing integration scheme. Network Rail is targeted to deliver all sites complete by early October 2014, whilst Home Office Type Approval will follow shortly thereafter.*

*It is anticipated that a large number of sites will be enforcing by the close of October 2014 with the remaining sites to follow pending Home Office Type Approval and final commissioning. Home Office Type Approval is a process engaged by each of the three manufacturers directly with the Home Office through the government's technical agency CAST (Centre for Applied Science Technology), whilst the practical testing elements are conducted by a CAST appointed organisation. Network Rail's reach into this process is extremely limited, as is appropriate given the nature of the work, and timescales are entirely dependent on those outside organisations and suppliers and their ability to complete the processes. For this reason we are unable to commit to exact delivery schedules.*

*Network Rail is able to supply the latest RLSE site list as supporting evidence if required. This contains the expected construction delivery dates.*

*Some sites that were originally identified have subsequently been de-scoped due to incompatibility issues. Network Rail has retained the originally instructed quantity of locations by sourcing suitable replacements. The original scope called for 6 trial sites followed by 21 roll out sites. Network Rail now has 28 sites as White Hart Lane (Richmond) was a recently instructed addition to the scope.*

5. On 6 August 2014, ORR requested an update on progress. On 14 November 2014, Network Rail responded stating:

*Installation of enforcement cameras has continued to progress steadily. Of the 28 trial sites a high proportion now have RLSE equipment installed ready for commissioning.*

*In spite of a concerted push however, our supply partner Carillion has experienced delays in securing DNO (Distribution Network Operators) power and meter connections on site. In addition to these complications there have also been difficulties with the design works and works access (planned engineering) at some locations. These delays have impacted detrimentally on the targeted completion date of October 2014; although it is expected that all sites will be fully equipped by the end of December [2014].*

*The commissioning of equipment is fully dependent on our suppliers securing the necessary Home Office Type Approval (HOTA). The position for each of our suppliers is summarised as follows:*

- *VISIONICS – System has passed the Type Approval practical test but EMC (electromagnetic compatibility) and night time illumination testing remain outstanding, with no firm timescales for resolution.*
- *FUTRONICS – Track testing scheduled for early January 2015. Results due 2-4 weeks later.*
- *SEA – Track testing scheduled for 15<sup>th</sup> December 2014. Results due 2-4 weeks later.*

*Once testing for each system has been completed and the results have been confirmed, the manufacturers and the Home Office have to further complete administration before the awarding of type approval is finalised. Timescales for this process are difficult to forecast at this time. Whilst Network Rail can apply pressure at Executive level for a timely resolution, Network Rail is unable to more directly affect the process. As such, Network Rail is not presently able to confirm a completion date for the awarding of type approval. Network Rail will continue to keep ORR advised.*

6. On 10 February 2015, Network Rail provided further information, including an extension to the timescale:

*The timescale extension is primarily to gain the necessary Home Office type approval, but also to take into account the remaining work to be completed on the three systems being trialled. Specifically, this is the completion of a second round of track testing, the production of a report into the testing and the submission of application to the Government for Home Office type approval.*

*Also, there is some equipment to install on site post HOTA which could take approximately six weeks.*

*The estimated approval date for each type is:*

- *Vysionics by 03 March 2015,*
- *SEA by 25 March 2015 and*
- *Futronics by 22 May 2015.*

*Revised timescale: 30 June 2015.*

### **ORR Decision**

7. Network Rail is continuing to engage with the Home Office for 'Type Approval' for Red Light Safety Equipment (RLSE). However, Network Rail is unable to state a completion date as this is a matter for the Home Office.

8. 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.

***Status: Implementation on-going.*** *ORR will continue to monitor progress and will advise RAIB when actions being taken to address this recommendation have been completed.*