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

Dear Andrew,

**RAIB Report: AOCL class investigation**

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

The annex to this letter provides details of the action taken regarding this recommendation, the status of which is now '**Implemented**'. We do not propose to take any further action in respect of this recommendation, unless we become aware that any of the information provided becomes inaccurate, in which case I will write to you again.

We will publish this response on the ORR website on 12 February 2016.

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

1. All 4 recommendations were addressed to ORR when the report was published on 28 July 2011.

2. We wrote to you on 22 February 2012 to report that recommendation 2 had been implemented; on 19 June 2014 to report that recommendation 3 had been implemented; and again on 13 October 2015 to report that recommendation 4 had been implemented.

### **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.

### **ORR decision**

3. By completing the programme of upgrades to AOCLs as envisaged by the recommendation Network Rail has taken the necessary action appropriate to meet the requirements of the recommendation.

4. ORR in reviewing the response provided by Network Rail has concluded that in accordance with the Railway (Accident Investigation and Reporting) Regulations 2005, it has:

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

**Status: Implemented**

**Update**

5. On 9 December 2015, Network Rail provided ORR with a closure statement containing the following information:

*Recommendation 1 from the report in the safety at automatic open level crossings stated that Network Rail should immediately implement a programme to upgrade the highest risk AOCLs selected by appropriately skilled personnel, on the basis of calculated risk, incident history; 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. The objective of this was to reduce the catastrophic risk of collision between a train and level crossing user - vehicle or pedestrian. We are now in a position to close this recommendation following its implementation.*

*An initial list of 72 sites out of a total 128 AOCL crossings on Network Rail Managed Infrastructure was included in the original scope, identified by the RAIB and Network Rail. Of these, 32 were identified by the RAIB as being 'high risk'; the remaining 40 were included by Network Rail as part of our own scoping exercise, with sites identified by route teams and ratified by the National Level Crossing Team. Later on, a further 9 sites were added to the scope leading to 81 crossings being in scope altogether.*

*In total, 66 sites have been delivered. Of these, 24 are from the RAIB's list of 'high risk' crossings. Following further investigation into each crossing, 8 were de-scoped. Reasons for this include unique technical configurations which would not allow conversion to AOCL+B overlay, planning proposals which render the conversion unsuitable, insufficient land available for purchase, and in five cases a complete upgrade at impending renewal to an ABCL or MCB-CCTV type.*

*A further 7 have been de-scoped from Network Rail's list, for similar reasons. However, in all cases, a plan is in place, or is already implemented for significant risk reduction in the absence of a barrier. For instance, additional permanent speed restrictions over the crossing or reducing traverse length through removal of unused running lines.*

*See below table listing all level crossings which have been upgraded to AOCL+B and commissioning date, or de-scoped from the project with summary justification for their removal.*

*This project has delivered a reduction in FWI of 0.12 across the network at a cost of £13.7m. The tangible benefits to this scheme are being demonstrated through the reduction of collisions, deliberate misuse and human error incidents occurring at crossings now enhanced to AOCL+B. For example, Shiplake level crossing has seen a reduction in the number of reported events of deliberate misuse and human error from 36 incidents between 2011/13 to 7 between 2013/5. With the*

*last crossings commissioned on 30th November 2015, the intent of the recommendation has now been met and can now be closed.*

### RAIB list of high-risk AOCL+B sites (32)

Level Crossing	Route	Date of commissioning
Wraysholme	LNW	Nov-2012
Ardrossan Harbour	Scotland	Apr-2012
Ardrossan Princess Street	Scotland	17-Nov-2013
Balnacra	Scotland	17-Nov-2013
Brampton	Anglia	19-Nov-14
Brora	Scotland	02-Feb-2014
Bunchrew	Scotland	18-Aug-2013
Dalchalm	Scotland	07-Apr-2013
Dingwall Middle	Scotland	23-Nov-2013
Hoy	Scotland	19-May-2013
Kinbrace	Scotland	07-Jul-2013
Lairg	Scotland	01-Dec-2013
Strathcarron	Scotland	03-Nov-2013
Bucknell	Wales	28-Apr-14
Fairbourne	Wales	26-Jun-14
Ffairfach	Wales	04-Feb-14
Llandybie	Wales	05-Feb-14
Llangadog	Wales	03-Feb-14
Chapel Road	Wessex	15-Jun-14
Coswarth	Western	31-Jan-15
Halloon	Western	03-Jun-14
Plassers	Western	29-Mar-14
Shiplake	Western	13-Mar-2013
Winchelsea	South East	01-Jun-14

### De-scoped Sites (8)

Burneside Lower	LNW	<p>De-scoped following position paper. Crossing unsuitable for overlay. The existing crossing is Open crossing with flashing lights added, rather than an AOCL. It would require full renewal to ABCL, rather than enhancement to AOCL+B. Such work fall beyond the remit and means of the project.</p> <p>Route Level Crossing Manager advises: Road too narrow for barrier and would block entire road. At present route is satisfied with level of protection until the electrification project takes place which will look to bridge the crossing before 2017.</p>
Chapel		<p>De-scoped following position paper. Insufficient land surrounding the crossing to accommodate barriers, and resident's house is too close to allow equipment installation. Level Crossing Manager advises alternative plan is to close the crossing due to land redevelopment nearby and new road is proposed by council, and the crossing is to remain</p>

		in its current condition until such time.
Delny	Scotland	<p>De-scoped following position paper/Closure. AOCL+B considered unsuitable to support the proposed local development, the crossing's future is pending resolution of planning issues with the Council.</p> <p>Operations Risk Advisor advises Delny has only been deferred whilst some realistic closure options are being explored. If this fails then the next step for Delny is a more lasting solution taking into account the proposed outline planning for a significant residential development.</p> <p>The crossing has a significant reduction in train speed: Delny is 35mph for 15X trains and 30mph for all others. They believe at present these speeds offer enough mitigation pending the closure being progressed. They recognise that this could be an indefinite period and therefore have introduced a "line in the sand" timeframe where if they have not made sufficient progress with closure they will abandon and pursue the enhancements of putting barriers on this crossing.</p>
Dingwall No 1	Scotland	<p>De-scoped following position paper/Closure. Crossing pending resolution of planning issues with Council. +B considered unsuitable to support the proposed local development. Full upgrade expected to be required.</p> <p>Operations Risk Advisor advises Dingwall has only been deferred whilst some realistic closure options are being explored. If this fails then the next step would be to overlay the +B arrangement</p> <p>The crossing has a significant reduction in train speed: 20mph for 15X trains and 10mph for all other types They believe that at present these speeds offer enough mitigation pending the closure being progressed. They recognise that this could be an indefinite period and therefore have introduced a "line in the sand" timeframe where if they have not made sufficient progress with closure they will abandon and pursue the enhancements of putting barriers at this crossing.</p>
Fishguard Harbour	Wales	<p>Private road not suitable for overlay. Project team considering road layout reconfiguration. Just included in the CP5 renewals list.</p> <p>Update from level crossing manager to say there have been some works to recover one of the three tracks the crossing traverses and improve the crossing surface. More importantly they have</p>

		recently been contacted by the Port Authority at Fishguard with a proposal to terminate passenger services at the recently constructed Goodwick Station which would enable them to close Fishguard crossing.
<b>Complete renewal</b>		<b>Justification</b>
Garve	Scotland	De-scoped following position paper/ABCL conversion. Crossing upgraded to ABCL in July 2014.
Halkirk	Scotland	Formally removed from scope via change control as per agreement with Scotland team/ABCL conversion.
Talwrn Bach	Wales	De-scoped from the project due to cost of additional work required to make the upgrade viable. Unforeseen underground conditions where equipment would be fitted require approximately £90,000 worth of remedial work required, and as the crossing is due to be renewed in 2016 to an ABCL this is not considered a reasonable expenditure.

#### Other Network Rail targeted sites (49)

Level Crossing	Route	Date of commissioning
Brewster Lane	LNE	29-Nov-2015
Matt Pitts Lane	LNE	15-Nov-2015
Borth Capel Soar	Wales	05-Mar-2015
Althorne	Anglia	13-Dec-2014
Blaxhall	Anglia	07-Dec-2014
Dawdys	Anglia	18-Dec-2014
Ferry Quay/Lane	Anglia	18-Aug-2014
Haywards	Anglia	18-Aug-2014
Laundry Lane	Anglia	17-Nov-2014
Lim Kiln Quay	Anglia	20-Aug-2014
Melton Station	Anglia	18-Nov-2014
North Green	Anglia	26-Nov-2014
Sun Wharf	Anglia	20-Aug-2014
Wenhaston	Anglia	24-Nov-2014
Weston	Anglia	20-Nov-2014
Willow Marsh	Anglia	25-Nov-2014
Battersby Road	LNE	27-Sep-2014
Dawes Lane	LNE	06-Jul-2014
Field Lane	LNE	07-Dec-2014
Gowdall Lane	LNE	07-Dec-2014
Lymm Bank	LNE	13-Sep-2014
Morton Carr	LNE	31-Jan-2015
Seacroft	LNE	14-Dec-2014
Snaith Station	LNE	25-Jan-2015
Bush On Esk No2	LNW	16-Jun-2014

Green Road:Millom	LNW	15-Dec-2013
Turton	LNW	10-Nov-2013
Whitbeck	LNW	19-Jan-2014
Achterneed	Scotland	03-Nov-2013
Corpach	Scotland	27-Jan-2013
Dingwall No 2	Scotland	23-Nov-2013
Forsinard	Scotland	02-Jun-2013
Kirkton	Scotland	27-Apr-2014
Morar	Scotland	27-Apr-2014
Rovie	Scotland	27-Apr-2014
Watten	Scotland	28-Jul-2013
Bennar Fawr	Wales	16-Dec-2014
Brymarlias	Wales	01-May-2014
Dolau	Wales	29-Apr-2014
Manorbier	Wales	06-Feb-2014
Rhiwderin	Wales	02-May-2014
Trencreek	Western	04-Jun-2014

<b>De-scoped Sites (7)</b>		<b>Justification</b>
Allans	Wales	Verbal agreement to remove from scope due to engineering & layout constraints. Now requires formal change control. Only on one of NR lists. Low use crossing in private holiday park, only used to move caravans into and out of the park. It is proposed downgrade to UWC. De-scope supported by the ORA's and RAM. On renewals list to be converted to UWC.
Forden	Wales	De-scoped following position paper/Closure. Downgraded to footpath May 2014.
Guisborough Road	LNE	De-scoped following position paper. Route substitutes Guisborough Road for the higher risk Battersby Road AOCL.  RLCM comment: 'Guisborough Road is a dead end road leading to a hamlet called New Row. Battersby Road is a through road. Both have had a recent full nine day census. On the busiest day at Guisborough Road there were 34 cars and 52 light vans. At Battersby Road there were 144 cars and 153 vans. The train service is the same but passes over Guisborough Road at 30 & 35 mph and Battersby Road at 15 and 20 mph.
Regents Road	LNW	De-scoped following position paper. Location within private port. Road fenced off and changed from a public to private without consultation with Network Rail. Crossing is temporarily blocked to road traffic following changes in traffic flows and road layout. Crossing mats and concrete cills removed, and approach roads blocked with bollards to protect railway and as a result it is not possible for the crossing to be accessed by vehicles. Route working with port to identify appropriate long term solution.  Update from RLCM: Pedestrian access is not possible at

		the moment either, so no residual risk is present. Discussions taking place with port to transfer ownership of asset.
Toton No. 4	LNE	<p>Not suitable due to engineering reasons. To be change controlled out of project scope/ Crossing not on the public highway. 06/03/2014 Non-compliant footprint so removed, the route are trying to innovate may have a solution but will not happen in CP4 and alternative funding will need to be found. Could also consider RLSE. De-scoped unsuitable for overlay, project team recommended consideration of road overlay reconfiguration.</p> <p>Update from Level Crossing Manager: A complex traffic management system is being considered by the route, whilst maintaining crossing as a Manually Controlled Open Crossing.</p>
<b>Complete renewal (2)</b>		
Weig Lane	Western	Removed at beginning of project. Crossing successfully upgraded to CCTV.
Sandscale	LNW	Crossing now upgraded to ABCL