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21 September 2021

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

Dear Andrew,

RAIB Report: Road vehicle incursion and subsequent collision with a train at Stowmarket Road on 30 November 2011

I write to provide an update¹ on the action taken in respect of recommendation 3 addressed to ORR in the above report, published on 21 November 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 3 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 22 September 2021.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Oliver Stewart', written in a cursive style.

Oliver Stewart

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

Recommendation 3

The purpose of this recommendation is for Network Rail to validate its existing list of locations with significant RVI risk.

Network Rail should review its current data on road vehicle incursion sites, possibly making use of recent internet tools (eg Google Earth / Street View), to determine whether its knowledge of all current road vehicle incursion locations is complete and to assess any that had not previously been considered

ORR decision

1. Network Rail has validated its list of RVI sites and risk ranked them using the revised DfT protocol published on 11 September 2020. The process identified a number of sites with a higher risk score than had previously been recorded. Action plans have been developed by each Network Rail route to address the highest risk RVI sites.

2. The closure statement provided by Network Rail in December 2018 covered the validation work, but we wanted to wait until we had seen evidence of the output being acted upon before making a decision if the recommendation has been satisfactorily taken into consideration and implemented. This was followed up through quarterly liaison meeting between ORR, Network Rail and DfT, with a focus on those sites scored 90+ using the DfT protocol.

3. 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
- has taken action to implement it

Status: Implemented.

Previously reported to RAIB

4. On 9 June 2014 ORR reported the following:

Network Rail has carried out a review to identify all road vehicle incursion locations and is taking action to assess those not previously known.

The review has identified thousands of locations for assessment. To avoid the Routes becoming swamped, in what are likely to be lower scoring sites, ORR understands that, once the desktop exercise is completed a list of sites scoring above 90 will be provided to the Routes for review and scoring on site. Those sites with a score less than 90 will be considered low priority for Route site visits.

Update

5. On 24 December 2018 Network Rail provide the following closure statement:



Stowmarket Road
Rec 3 CMO Closure

6. Network Rail state the following:

Network Rail has reviewed and updated its current list of adjacent road and overbridge Road Vehicle Incursion (RVI) sites. All existing RVI sites have been validated and 6700 new sites have been identified.

This was achieved by completing the four steps identified in the original action plan developed in response to this recommendation:

Step 1

The first step was to review and understand the Road Vehicle Incursion scoring tool. Each section of the three scoring tables (Overbridge single carriageway, Overbridge dual carriageway/motorway and adjacent sites) was analysed to establish where the information could be located.

Trials were then undertaken to assess the effectiveness of Google maps to attain a RVI risk score. This was found to be an ideal tool. Google Earth and Street View were used in conjunction with the Earthworks database, Line Speed data, Tonnage data and the Sectional Appendix.

Step 2

Step 2 involved Geospatial analysis to locate all known roads within 30 metres of the track. This led to an initial list of 34,001 potential RVI sites.

The initial list was reviewed to remove sites of underline bridges, level crossings, tunnels and any duplicated sites. This reduced the list to 15,693 potential sites.

Step 3

The 15,693 sites were then checked against the existing Route RVI registers. Sites already identified (and therefore already managed) were removed. This resulted in a final list of 9817 sites, (510 No. overbridge sites and 9,307 adjacent road sites)

NB *While reviewing the 9,817 sites, an additional 2,719 adjacent road sites and 78 overbridge sites were found. These sites were mostly at locations where a single site had already been identified.*

Final additional site totals:

12,026 adjacent sites and 588 overbridge sites= 12,614

Step 4

The 12,614 sites were new sites not currently identified by the routes, and therefore subject to initial review for determination of RVI risk.

- *Of the 12,614 sites reviewed, 6,700 met the criteria for RVI scoring*

- *Of the 6,700 sites scored, 677 adjacent sites and 62 overline bridge sites had a RVI risk score of 90 or above and will require further scoring by the Routes*

Previously reported to RAIB

Recommendation 3

The purpose of this recommendation is for Network Rail to validate its existing list of locations with significant RVI risk.

Network Rail should review its current data on road vehicle incursion sites, possibly making use of recent internet tools (eg Google Earth / Street View), to determine whether its knowledge of all current road vehicle incursion locations is complete and to assess any that had not previously been considered

Brief Summary on what was previously reported to RAIB on 4 November 2013

On 30 August 2013, Network Rail provided: A summary of progress made to address the recommendation:

Step 1 - Following a review of various potential data sources Network Rail has undertaken geospatial analysis using Geographic Information Systems (GIS) to identify potential RV/ sites from neighbouring roads. Additionally, sources of non-civils data had been identified to assist in the risk scoring of sites in the event that Network Rail had identified sites that had not been previously assessed. (Complete).

Step 2 - Resources had been allocated within Asset Management SeNices to check the adequacy of identification of sites. (Complete).

Step 3 - The review and update of the current list of vehicle incursion sites had commenced to be completed by 30 November 2013.

Step 4 - Network Rail planned to complete the initial risk scoring of sites not previously assessed by 31 March 2014.

Update

1. On 21 February 2014, Network Rail stated that:

Stage 3 was completed using a three step methodology:

Step 1: Geospatial analysis undertaken to locate all known roads within 30 metres of the track. This led to an initial register of 34,001 potential Road Vehicle Incursion (RV/) sites.

Step 2: The initial register was then reviewed to remove underline bridges, level crossings, tunnels and any duplicated sites.

Step 3: The remaining sites were then reviewed to identify sites currently

contained with the RV/ register and therefore already managed by the applicable routes.

The remaining 9,817 sites were therefore new sites, not currently identified by the Routes, and therefore were subject to an initial appraisal of their RV/ risk score.

These were subdivided into:

- 510 over-line bridge sites; and*
- 9,307 adjacent to road sites.*

The number of road sites includes both private and public road sites which is beyond the original scope of this recommendation, but has been included to expedite the additional works to address North Rode RAIB Recommendation 3.

Step 4, to risk score sites not previously assessed, was initiated in December 2013 using the following methodology to establish an RV/ score:

Stage 0a: Using electronic data, the ELR [Engineer's Line Reference] risk score can be identified (including the permissible line speed, volume of rail traffic and type of rail traffic). With this information ELR's can be organised into priority order for initial scoring as some are unlikely to reach a score of 90 (e.g. follow up initial scoring commences for lines with a line speed > 100mph);

Stage 0b: Each site then had the site specific risk points scored, using MARLIN mapping (Network Rail's Geographical Information Portal) and internet sources. For other factors, worst case scores have been adopted. To date Network Rail has completed the scoring of for 476 over-line bridges and 3,978 adjacent road sites. This leaves 34 over-line bridge sites and 5,329 adjacent road sites still to appraise.

At the current rate sites are being scored at approximately 100 per day over 10 days per 4-week period = 1000 sites per 4-week period.

Timescale: 31 July 2014

ORR Decision

2. Network Rail has carried out a review to identify all road vehicle incursion locations and is taking action to assess those not previously known.

3. The review has identified thousands of locations for assessment. To avoid the Routes becoming swamped, in what are likely to be lower scoring sites, ORR understands that, once the desktop exercise is completed a list of sites scoring above 90 will be provided to the Routes for review and scoring on site. Those sites with a score less than 90 will be considered low priority for Route site visits.

4. After reviewing all the information received ORR 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. A desktop assessment should be completed by 31 July 2014. Once Network Rail has completed its desktop assessments ORR will ask for a time bound plan to carry out the site assessments.