

Oliver Stewart
RAIB Recommendation Handling Manager



2 June 2023

Mr Andy Lewis
Deputy Chief Inspector of Rail Accidents

Dear Andy,

RAIB Report: Collision between a train and a car at Beech Hill level crossing, near Finningley on 4 December 2012

I write to provide an update¹ on the action taken in respect of recommendations 3 & 4 addressed to ORR in the above report, published on 13 September 2013.

The annex to this letter provides details of actions taken in response to the recommendations and the status decided by ORR. The status of recommendations 3 & 4 is '**Closed**'.

We do not propose to take any further action in respect of the recommendations, 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 5 June 2023.

Yours sincerely,

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 to introduce a new 'brighter' type of LED wigwag for use at sites where sunlight glare has been identified as a factor.

Infrastructure managers should, in conjunction with the other industry parties, develop a new type of wig-wag unit with higher luminous intensity than the existing LED units for use at crossings where high background luminance and sunlight glare is a particular problem, and install these units at the appropriate locations.

ORR decision

1. Closure of this recommendation was dependent on the outcome of recommendation 2, which was concerned with the methodology used to identify level crossings where there was a risk of sun glare impairing the visibility of level crossing wigwags and barriers. Recommendation 2 was reported as implemented on 21 April 2016².
2. In response to recommendation 3, Network Rail developed a new higher intensity LED lamp for use in wig-wag modules, whilst maintaining compatibility with existing road light control circuits. Fitment of high intensity units at level crossings identified with risk of sun glare is now embedded as business as usual in Network Rail.
3. When the Beech Hill report was published, recommendation 3 was also directed to Nexus and the Heritage Railway Association (HRA) to act upon. Nexus has fitted LEDs to all wigwags at level crossings for which it is the infrastructure manager.
4. We reported to RAIB in March 2016 that whilst the HRA did not propose taking any action to address the recommendation, it would review its position if a new wigwag of the type envisaged by RAIB was developed, approved and recommended for use. As the new LED lamp has now been developed, we have written to all HRA members setting out the recommendation, the specification of the new LED lamp and the independent report commissioned by Network Rail into sun glare at level crossings.
5. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail, Nexus and the HRA have:
 - taken the recommendation into consideration; and
 - Have taken action to close it

Status: Closed.

² ORR letter to RAIB reporting recommendation 2 as implemented:
<https://www.orr.gov.uk/sites/default/files/om/raib-beech-hill-2016-04-21.pdf>

Previously reported to RAIB

6. On 10 February 2016 ORR reported the following:

ORR notes that the delivery of this recommendation is dependent on the outcome of recommendation 2 and therefore an update on progress with the delivery of recommendation 3 is awaited from Network Rail.

Update

7. On 7 January 2022 Network Rail provided the following closure statement and supporting evidence:



[N195-05] Beech Hill [N195-05] Beech Hill [N195-05] Beech Hill [N195-05] Beech Hill [N195-05] Beech Hill [N195-05] Beech Hill
Rec 3 Closure TempLED Wig-WAG SumrOC-0435 Stage 4 - PiOC-0435 Stage 4 - ROC-0435 Stage 5 - R



[N195-05] Beech Hill
OC-0435 Stage 6 - Si

8. On 2 December 2021 Nexus provided the following update for recommendations 3 and 4:

The wig wags are now all LED, in 2014 we changed out the filament lamps and undertook improvements to the backboards and installed better hoods. I can recall ORR attended site during this process.

All our road level crossings now have Level Crossing Orders (which historically they did not) which commits both ourselves and the local highway authority to a standard of monitoring and maintenance.

9. On 22 May 2023 ORR sent the following letter to HRA members:



2023 05 22 Beech
Hill recs 3&4 letter t

Recommendation 4

The purpose of this recommendation is to ensure the inspection and maintenance process confirms that wig-wag light units continue to meet their specification (types other than 36 W, which will have been dealt with in Recommendation 1). This may be achieved by means of testing/inspection or by replacing lamps at the end of a defined service life.

Infrastructure managers should enhance the inspection and maintenance process for wig-wag lamps to provide assurance that they continue to meet their specified performance standard.

ORR decision

10. Recommendation 4 was addressed to Network Rail, Nexus and the HRA. We have previously reported that Nexus have implemented the recommendation.

11. After extensive testing Network Rail have mandated a specific lamp which it has been demonstrated can continue to meet the specified outputs within the existing framework for inspection over the life of the asset.

12. We have advised the HRA that Network Rail concluded that rather than develop an enhanced standard, a specific lamp was mandated, which it has been demonstrated can continue to meet the specified outputs over the life of the asset. As with recommendation 3, we have written to HRA members advising them of the new type of lamp being specified by Network Rail that ensure the required performance standard is met.

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

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

Status: Closed.

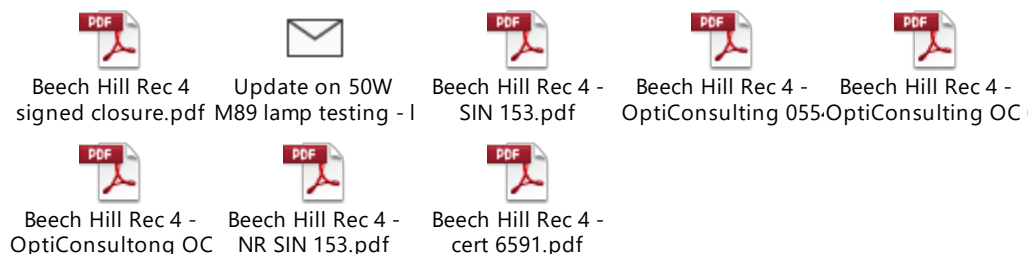
Previously reported to RAIB

14. On 10 February 2016 ORR reported the following:

ORR notes that the timescale for completion of the lamp testing programme has been extended to 31 December 2016.

Update

15. On 22 March 2017 Network Rail provided the following closure statement and supporting evidence:



Previously reported to RAIB re Network Rail actions to implement

Recommendation 3

The purpose of this recommendation is to introduce a new 'brighter' type of LED wigwag for use at sites where sunlight glare has been identified as a factor.

Infrastructure managers should, in conjunction with the other industry parties, develop a new type of wig-wag unit with higher luminous intensity than the existing LED units for use at crossings where high background luminance and sunlight glare is a particular problem, and install these units at the appropriate locations.

ORR decision

1. ORR notes that the delivery of this recommendation is dependent on the outcome of recommendation 2 and therefore an update on progress with the delivery of recommendation 3 is awaited from Network Rail.
2. ORR, having reviewed the latest response from Network Rail has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:
 - taken the recommendation into consideration; and
 - is taking action to implement it but a timebound plan for delivery is yet to be provided.

Status: Progressing. ORR will provide a further update to RAIB when the status of this recommendation changes.

Previously reported to RAIB

Network Rail

3. On 13 March 2015 ORR reported to RAIB that Network Rail's work to 'product accept' an improved level crossing traffic light has been completed. Implementation of on-site work was to be dependent upon the outcome of recommendation 2 for which Network Rail had confirmed it would provide a time bound implementation plan.

Update

4. On 25 September 2015 Network Rail advised that the timescale for completion of the work to deliver this recommendation had been extended until 19 January 2016:

The assessment of sites where the developed LED wig wag is to be applied is dependent on the output of Beech Hill recommendation 2, which is still in progress with a date of 26 October 2015. Timescales for assessment of sites is assumed at this time, and the extent of installation work is unknown until assessments are available.

5. ORR understands that Network Rail is in the process of preparing a closure statement for recommendation 2 and expects to receive an update on recommendation 3 in due course.

Nexus

6. On 13 March 2015 ORR reported to RAIB that Nexus had indicated that it would be willing to consider further action if options become available as result of the work being undertaken by Network Rail.

Status: Progressing. ORR will raise this issue again with Nexus once Network Rail has reported the outcome of its work to implement recommendation 3.

Heritage Railway Association

7. On 13 March 2015 ORR reported to RAIB that whilst the HRA did not propose taking any action on this recommendation, it would review its position if a new wigwag of the type envisaged by RAIB was developed, approved and recommended for use.

Status: Progressing. ORR will raise this issue again with HRA once Network Rail has reported the outcome of its work to implement recommendation 3.

Recommendation 4

The purpose of this recommendation is to ensure the inspection and maintenance process confirms that wig-wag light units continue to meet their specification (types other than 36 W, which will have been dealt with in Recommendation 1). This may be achieved by means of testing/inspection or by replacing lamps at the end of a defined service life.

Infrastructure managers should enhance the inspection and maintenance process for wig-wag lamps to provide assurance that they continue to meet their specified performance standard.

ORR decision

8. ORR notes that the timescale for completion of the lamp testing programme has been extended to 31 December 2016.

9. ORR, having reviewed the latest response from Network Rail has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

- taken the recommendation into consideration; and
- is taking action to implement it.
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Status: Progressing. ORR will provide a further update to RAIB when the

status of this recommendation changes.

Previously reported to RAIB

10. We have previously reported to RAIB that Nexus has implemented recommendation 4.

Network Rail

11. On 13 March 2015 ORR reported to RAIB that the completion date for Network Rail to conduct a national sample survey of wig-wag lamps and lenses and submit a sample number of 24V 50W RTL lamp units for specialist testing had been extended to 30 June 2015 due to a failure of some of the test equipment used by the supplier.

Update

12. On 25 September 2015 Network Rail advised that the timescale for completion of this work has been extended to 31 December 2016, the reason being:

OptiConsulting (the specialist test house Network Rail has engaged to test the lamps & lenses) have reported that the life testing of the lamps has extended the timescales and the testing has also been delayed by the failure of a test instrument that had to be sent away for repair during the project.

Status: Progressing. ORR will provide a further update to RAIB when the status of this recommendation changes.

HRA

13. On 13 March 2015 ORR reported to RAIB that the HRA was not proposing to take any action to advise members to undertake more technical testing to specifications, but if research by Network Rail manages to develop a cost effective method for doing this then HRA would review its position.

Status: Progressing. ORR will raise this issue again with HRA once Network Rail has reported the outcome of its work to implement recommendation 4.