

Oliver Stewart
RAIB Recommendation Handling Manager



29 November 2024

Mr Andy Lewis
Deputy Chief Inspector of Rail Accidents

Dear Andy,

**RAIB Report: Train striking debris at Yarnton near Hanborough,
Oxfordshire on 10 February 2023**

I write to report¹ on the consideration given and action taken in respect of the recommendations addressed to ORR in the above report, published on 1 February 2024.

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

ORR will advise RAIB when further information is available regarding actions being taken to address these recommendations.

We will publish this response on the ORR website.

Yours sincerely,

Oliver Stewart

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

Initial consideration by ORR

1. All 4 recommendations were addressed to ORR when the report was published on 1 February 2024.
2. After considering the recommendations ORR passed all 4 recommendations to Network Rail asking them to consider and where appropriate act upon them and advise ORR of its conclusions. The consideration given to each recommendation is included below.
3. ORR also brought the report and recommendations to the attention of other Infrastructure Managers as it was concluded that that there are equally important lessons for them. ORR did not ask these organisations to provide a reply.

Recommendation 1

The intent of this recommendation is to ensure that effective standards and processes are in place which will reduce the likelihood of ineffective repair work being undertaken to masonry.

Network Rail should review the relevant standards and procedures that deal with the specifying of repairs to fractured masonry to ensure that complex defects, such as bulging with fractures, are subject to appropriate review and further investigation to ensure that suitable repairs are undertaken. This review should specifically consider how the repair of masonry which is already in a poor condition is undertaken.

Network Rail should develop a timebound programme to make any appropriate changes identified to standards and processes

ORR decision

4. Network Rail plan to begin the review of standards and procedures that deal with the specifying of repairs to fractured masonry in February 2025. We queried the timescale in the action plan between the review of the standards framework and the start of the standards change project. Network Rail confirmed that development and consultation on changes to standards and publication of updated requirements would all be part of the project.
5. As an interim measure until the standards project has been completed, Network Rail have issued briefing advice on management of bulges and fractures in walls, including review and investigation.
6. 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
 - is taking action to close it

Status: Open.

Information in support of ORR decision

7. On 14 May 2024 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

No.	Action	By when
1.	Produce and share a national awareness briefing on facing walls that references this incident. This will provide advice on management of bulges and factures in walls, including review and investigation. It will also set out links to existing sources of industry good practice for specifying and undertaking brickwork and masonry repairs.	30 th April 2024
2.	Review the framework of standards and procedures associated with Technical User Manual and Standard Design Details for Masonry and Brickwork Repairs set out in NR/CIV/SD/TUM/101 & NR/CIV/SD/100 series. This review will identify: <ul style="list-style-type: none"> - a schedule of proposed changes to the existing framework - the rationale for the changes proposed 	28 th Feb 2025
3.	Establish a standards change project for update of the applicable NR standards and controls (e.g. NR/CIV/SD/TUM/101 & NR/CIV/SD/100 series) based on the schedule of proposed changes. Develop and consult changes and gain consensus for publication.	31 st Dec 2025
4.	Produce briefing materials and brief updates to standards and controls upon publication.	30 th June 2026

Evidence required to support closure of recommendation

- Published Structures Facing Wall Briefing Note
- Summary of the review of standards and procedures
- Published updates to standards and controls framework (assuming need confirmed by review)
- Completed briefing plan with associated briefing materials (assuming need confirmed by review)

Recommendation 2

The intent of this recommendation is to improve the quality of information available to staff responsible for making safety-critical decisions on the stability of structural defects.

Network Rail should develop and implement improved methods for managing defects in masonry structures, such as wing walls, to gain a better understanding of the asset. This should include consideration of:

a) Introducing a standardised and repeatable method for accurately measuring the shape of bulges in masonry walls that is suitable for use by structures examiners, where the routine examination regime is insufficient. This method should be available for use where bulges exist or the need for monitoring has been identified through the examination review process. This method should enable the likelihood of

failure to be assessed with greater confidence and should define the actions to be taken in specific circumstances, such as identifying the trigger for additional monitoring.

b) Reviewing the guidance for structures examiners so that photographs of masonry fractures included in examination reports are taken from a location perpendicular to the surface and that bulges are photographed at an oblique angle and from both sides where it is practical and safe to do so. Network Rail should develop a timebound programme to make any appropriate changes identified to standards, guidance and processes.

ORR decision

8. Network Rail is undertaking three workstreams to address the recommendation: revision to the structures examination standard NR/L3/CIV/006; adding guidance for examiners regarding photographs of masonry fractures and bulges to the guidance note to the structures examination standard (NR/GN/CIV/006); and publishing guidance on monitoring of bulges in brickwork. We consider the approach being taken by Network Rail to be appropriate to address the recommendation.

9. 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
- is taking action to close it

Status: Open.

Information in support of ORR decision

10. On 14 May 2024 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

No.	Action	By when
1.	Provide guidance for examiners relating to photographs of masonry fractures and bulges in the guidance note to the structures examination standard (NR/GN/CIV/006).	30 th June 2024
2.	Add requirement to review recommendation as part of post-implementation review of NR/L3/CIV/006 Issue 11 and consider enhancing requirements	31 st Dec 2024
3.	Establish a standards change project for update of NR/L3/CIV/006 Issue 11 based on findings of post-implementation review. Develop and consult changes and gain consensus for publication.	31 st Dec 2025
4.	Produce briefing materials and brief update to upon publication of the revision to NR/L3/CIV/006.	30 th June 2026
5.	A technical strategy will be developed, which includes a roadmap for accurately monitoring bulges, by 31st March 2025	31 st March 2025

6.	Carry out a review options to monitor bulges and develop and share guidance on suitable techniques	31 st Dec 2026
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Evidence required to support closure of recommendation

- Published guidance note to the structures examination standard (NR/GN/CIV/006)
- Published revision to the structures examination standard NR/L3/CIV/006
- Published guidance on monitoring of bulges in brickwork

Recommendation 3

The intent of this recommendation is to improve the risk scoring of structures defects and the interpretation of their significance.

Network Rail should review the training and working practices associated with allocating risk scores and the examination report review process to ensure that defects affecting parts of structures which could present a direct risk to the railway in the event of collapse are given an appropriate defect risk matrix severity factor in accordance with Network Rail standard NR/L3/CIV/006, 'Structures, Tunnels and Operational Property Examinations', Part 1B, 'Undertake examinations'.

This review should specifically consider if, when defects from different parts of a structure are aggregated into a single recommendation, the recommendation's risk score reflects the highest risk item.

Network Rail should develop a timebound plan to make any appropriate changes identified to training, working practices and processes.

ORR decision

11. Network Rail is reviewing the structures examination standard (NR/L3/CIV/006) in light of the recommendation and will issue guidance for the revised standard covering the risk scoring of defects including the selection of appropriate severity factors.

12. 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
- is taking action to close it

Status: Open.

Information in support of ORR decision

13. On 14 May 2024 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

No.	Action	By when
1.	Provide guidance for risk scoring of defects including the selection of appropriate severity factors in the guidance note to the structures examination standard (NR/GN/CIV/006).	30 th June 2024
2.	Add requirement to review recommendation as part of post-implementation review of NR/L3/CIV/006 Issue 11 and consider enhancing requirements based on review of: <ul style="list-style-type: none"> - current working practices (e.g. instructed work items) - current guidance and training materials 	31 st Dec 2024
3.	Establish a standards change project for update of NR/L3/CIV/006 Issue 11 based on findings of post-implementation review. Develop and consult changes and gain consensus for publication.	31 st Dec 2025
4.	Produce briefing materials and brief update to upon publication of the revision to NR/L3/CIV/006.	30 th June 2026

Evidence required to support closure of recommendation

- Published guidance note to the structures examination standard (NR/GN/CIV/006)
- Published revision to the structures examination standard (NR/L3/CIV/006)

Recommendation 4

The intent of this recommendation is to improve asset knowledge of wing walls which are not fully encompassed by existing processes to enable asset engineers to make better informed, consequence-based decisions.

Network Rail should review its bridge assets and establish if it has clearly identified those wing walls which may fail with a potentially high safety consequence. Network Rail should also consider the benefits of introducing a wing wall risk tool to assess load paths and consequences of failure to improve its knowledge of these assets

ORR decision

14. Network Rail is using bowtie analysis to identify the factors that influence the consequence of wing wall failure. Any measures to improve knowledge of wing walls will be included in the post-implementation review of NR/L3/CIV/006 Issue 11.

15. 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
- is taking action to close it

Status: Open.

Information in support of ORR decision

16. On 14 May 2024 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

No.	Action	By when
1.	Carry out a review of the the function of wing walls and consequences of failure using a BowTie approach and use this to identify factors that influence the consequences of failure. Undertake analysis of the options available to improve knowledge of these assets, including a wing wall risk tool.	30 st Nov 2024
2.	Add recommended actions arising from the review to the post-implementation review of NR/L3/CIV/006 Issue 11 and consider enhancing requirements.	31 st Dec 2024
3.	Based on findings of review, if individual regional action is necessary to support identification of higher risk wing walls, produce and agree guidance setting out change and associated requirements. <i>N.B. Region/Route based recommendation and action plans to be established to track implementation of agreed guidance.</i>	28 th Mar 2025

Evidence required to support closure of recommendation

- Report summarizing the review of wing wall failure consequence and analysis of options to improve knowledge of these assets.
- Guidance on identification of higher risk wing walls (if required based on findings of review).

17. On 23 May 2024 ORR wrote to Network Rail and asked at what point do they think they will be in a position to answer the question at the start of the rec - *Network Rail should review its bridge assets and establish if it has clearly identified those wing walls which may fail with a potentially high safety consequence.* We would expect Network Rail to be able to identify wing walls which may fail with a potentially high safety consequence before we can close the rec. It is not clear if this will have been addressed by stage 3 of the action plan and would welcome clarity from Network Rail on this point. Network Rail responded on 8 June 2024 as follows:

We will be able to answer this question at the end of Item 1 if we hold the data identified as necessary for categorisation.

If we do not hold the data identified as necessary for categorisation as part of Item 1, an exercise will be required to collect this information.

Item 3 would set out requirements and guidance for completing this exercise. The persons responsible for completing the data collection exercise would then submit a

separate action plan setting out the timescale for this activity based on this guidance. Recommendation 4 would not be closed until the action plan to complete data collection and categorise wing walls is complete.

Recommendation 4 will not be closed until wing walls have been categorised.