

Oliver Stewart
RAIB Recommendation Handling Manager



30 May 2024

Mr Andy Lewis
Deputy Chief Inspector of Rail Accidents

Dear Andy,

RAIB Report: Embankment washout under a passenger train at Haddiscoe on 30 January 2022

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 27 July 2023.

The annex to this letter provides details of actions taken in response to the recommendations and the status decided by ORR. The status of recommendation 1 is '**Closed**'. The status of recommendations 2 and 3 is '**Open**'. There is no status being reported for recommendations 4 & 5.

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 5 recommendations were addressed to ORR when the report was published on 27 July 2023.
2. After considering the recommendations ORR passed recommendation 1 to Network Rail Anglia Route and recommendations 2 – 5 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. This annex identifies the correspondence with end implementers on which ORR's decision has been based.

Recommendation 1

The intent of this recommendation is to ensure that railway-related flood risk is managed alongside Haddiscoe New Cut, taking account of issues such as the potential for flooding to be caused by relatively small amounts of overtopping.

The Environment Agency and Network Rail should agree a shared understanding of how railway-related flooding risk alongside the New Cut at Haddiscoe is managed. Their considerations should include:

- ensuring that the Haddiscoe flood defence is included in appropriate Network Rail infrastructure management systems
- the circumstances in which overtopping and/or failure of the Environmental Agency flood defence infrastructure could occur, and the potential impacts of this on the railway
- learning from previous overtopping/failures of the flood defences
- the flood warning arrangements required and provided
- the types and frequency of inspections, monitoring and assessment required to manage railway-related flood risk, how the associated access will be provided and how the results of these activities will be communicated between the Environment Agency and Network Rail, including any understanding of consequent risk
- if any changes are required to existing flood defences to mitigate the risks identified, both in the long term and the interim period before any longer-term measures are implemented.

ORR decision

4. Due to the location of the Haddiscoe New Cut, the recommendation was addressed to Network Rail Anglia Route to act upon rather than the Technical Authority. The recommendation was addressed to the Environment Agency directly by RAIB rather than ORR (as the Safety Authority).
5. Network Rail and the Environment Agency have agreed a plan for reaching a shared understanding of how railway related flood risk will be managed in the Haddiscoe embankment area.

6. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail Anglia Route has:

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

Status: Closed.

Information in support of ORR decision

7. On 4 November 2023 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

The Anglia Route have held a review with the EA in order to agree the steps that will be taken to agree a shared understanding of how railway related flood risk will be managed in the Haddiscoe embankment area. The review determined the following action plan:

1. Establish appropriate short-term mitigation to reduce the risk in this area to overtopping (Nov 2023)
2. Conclude the Network Rail L3 investigation into the events at Haddiscoe, to establish the learnings from previous overtopping events, to establish the warning arrangements required and any improvements to those already in place (Dec 2023).
3. NR and EA to work together to establish a clear understanding of an effective inspection and monitoring regime (to include approach to access and vegetation in this area), to conclude in a Memorandum of Understanding between organisations on an effective approach to understanding risk at Haddiscoe, specifically in regard to overtopping (March 2024).
4. Undertake a joint review between the EA and NR of the flood defences located in the Haddiscoe embankment area, to understand capability and condition of the flood defences in the area, establish likelihood and conditions that could lead to overtopping of the defences and likely impact to NR, as well as establishing recommendation for medium/ long term options for reducing the risk in this area (April 2024).

Additionally, an update of the JBA system is planned to ensure that Haddiscoe is included as a trigger area for flooding risk so that alerts are received directly into Route Control so that an appropriate response can be effectively co-ordinated (end of October).

Evidence required to support closure of recommendation

- L3 approved Haddiscoe report
- Snap-shot of JBA system updated, to include Haddiscoe area as a trigger for flood risk
- Joint Report between EA and NR on overtopping capacity/ condition with medium to long term options to reduce risk at Haddiscoe
- Memorandum of Understanding on implementing an effective inspection/ monitoring regime

Recommendation 2

The intent of this recommendation is to ensure Network Rail weather management processes are consistent for all types of weather events, including tidal flooding.

Network Rail should develop processes for the effective identification, recording, and management of sites at risk from coastal/tidal and fluvial flooding (for example, via the integrated weather management plan). These should include:

- criteria for identifying specific areas at risk, the level of acceptable risk and the threshold at which mitigations are required
- standard guidance for carrying out flood risk assessments and developing mitigations
- identifying the staff in Network Rail who will be responsible for carrying this out

ORR decision

8. Following discussion with Network Rail, a revised action plan was provided setting out more clearly how closure of the recommendation will be evidenced. Network Rail is reviewing the framework for managing coastal, tidal and fluvial flood risk and how it interfaces with route control. The final process will include the relationship with the EWATs and how the operational response is shared with Railway Undertakings.

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 30 April 2024 Network Rail provided an updated action plan:

Action Plan

Please provide milestones with dates

1. Review of the control framework covering the risks of coastal, tidal and fluvial flooding on earthworks, structures and track. This element of the action plan will potentially identify areas of opportunity to strengthen the control framework and identify if further enhancements will be beneficial to proportionality improve the framework. (February 2024 – Network Technical Heads)
2. Review the interface arrangements between the asset protection framework and the application of the outputs in the Route Control. This will identify any areas where there is a disconnect between disciplines and the implementation of the relevant controls. The output from this review will be used to determine how best to document the process within the Route Control operating procedures. (February 2024 – Lisa Angus)
3. Review good practice for Flood Risk Assessments within the Regions to identify where the risk is being managed effectively and use this learning to help inform the end-to-end process and build into the standard guidance (February 2024 – Lisa Angus)
4. Document the mechanism to record high risk asset and how to interpret the output from the forecasting tools (i.e. Integrated Weather Management Plan). This can indicate options on the operational response which can then be refined by the Regions when delivering against Haddiscoe Recommendation 3. The documented process will include the relationship with the EWATs and how the operational response is shared with Railway Undertakings. (May 2024 – Lisa Angus)
5. Review the capability arrangements for Route Control and include the arrangements within the relevant framework. (July 2024 – Emma Lowe)
6. Provide the outputs from the recommendation with the Route teams for implementation. (August 2024 – Lisa Angus)

Evidence required to support closure of recommendation

1. Control Framework Review output and a plan to implement any changes identified.
2. Following the Review of the interface between Asset Management and Route Control an update of the Route Control Operating Procedures.
3. Documented Best Practice for Flood Risk Assessments that is built into the standard guidance and shared with the Routes.
4. Documented Mechanism to record High Risk Assets
5. Any changes to the Route Control capabilities as a result of this Recommendation.

Recommendation 3

The intent of this recommendation is to ensure controls and processes are adequate to manage the operational response to all types of weather events that can cause the railway to flood, and that tidal flooding is integrated into existing weather management standards.

Network Rail should ensure that flood warnings from external organisations are managed and disseminated in a timely manner to operational and maintenance staff, and that any required response is clearly defined in the integrated weather management plan

ORR decision

11. Network Rail have provided an appropriate plan setting out how flood warnings from external organisations should be managed and disseminated to operational and maintenance staff. We have asked Network Rail to provide a national closure statement, with reference to route response.

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 29 January 2024 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

1. Mapping of defended and undefended flood risk areas to identify potential locations where Network Rail assets are at risk for England, Wales and Scotland (work with Alastair on Rec 5). TA lead - Dec 2024.
2. Discuss with regulatory bodies at a National level to set the criteria for local level conversations and to provide contact list of local level partners. This could potentially include a workshop for regions in support of Stage 3. TA Lead – Dec 2024
3. Regional DEAM's (with support from Drainage teams/ Regional Weather & Climate Change Lead) to develop and implement plans to manage risk (involving EA/NRW partners). Regions to lead date tbc Work to include:
 - Review locations of concern from mapping exercise and as identified by EA and NRW that NR are not currently aware of.
 - identify the nature of the risks arising from the overtopping and/or failure of the flood defence

- develop the requirements for inspection, monitoring and maintenance for each organisation
- specify how information is communicated so that each organisation can manage its own risks appropriately
- determine how lessons will be learned across all of these organisations where overtopping and failures of tidal flood defences occur.

4. Update MoU's with EA and NRW – TA and Wales Route lead – Dec 2025

Evidence required to support closure of recommendation

Mapping work
Updated MoU's
Updated IWMPs for key locations

14. On 28 February 2024 ORR wrote to Network Rail as follows:

Can NR provide a national response (including extracts of routes responses), rather than a closure statement for each region.

Recommendation 4

The intent of this recommendation is to improve interaction between Network Rail and organisations responsible for tidal flood defences where the operation of these defences affects railway safety. This includes consideration of railway-specific risk such as localised flooding leading to washout of material supporting the track resulting in a serious accident.

Network Rail, the Environment Agency and Natural Resources Wales should work together to identify any railway-related risks arising from the overtopping and/or failure of tidal flood defences where this could adversely affect the safety of Network Rail infrastructure. Where such locations are identified, Network Rail, the Environment Agency and Natural Resources Wales should undertake the following:

- agree a shared understanding of roles and responsibilities in the management of flood defences, including where railway infrastructure (such as embankments) forms an integral part of the flood defence
- ensure processes are provided to identify, and assign to the appropriate organisation, the actions required at each flood defence location to maintain railway safety. This should include:
 - identifying the nature of the risks arising from the overtopping and/or failure of the flood defence
 - developing the requirements for inspection, monitoring and maintenance for each organisation
 - specifying how information is communicated so that each organisation can manage its own risks appropriately

- determining how lessons will be learned across all of these organisations where overtopping and failures of tidal flood defences occur.

As part of this work, Network Rail and the Environment Agency and Natural Resources Wales should review and, where necessary, improve any relevant existing agreements such as Memorandums of Understanding.

ORR decision

15. Recommendation 4 is concerned with improving the interaction between Network Rail and organisations (Environment Agency and Natural Resources Wales) responsible for tidal flood defences, where they impact the railway. Recommendation 5 is the same, but for Scotland, where flood defence is managed by local authorities. As much of the responsibility for recommendations 4 and 5 sits with organisations ORR have no vires over, we are not in a position to comment nor provide a status on the proposed action.

Information in support of ORR decision

16. On 1 December 2023 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

15. Mapping of defended and undefended flood risk areas to identify potential locations where Network Rail assets are at risk for England, Wales and Scotland (work with Alastair on Rec 5). TA lead - Dec 2024.
16. Discuss with regulatory bodies at a National level to set the criteria for local level conversations and to provide contact list of local level partners. This could potentially include a workshop for regions in support of Stage 3. TA Lead – Dec 2024
17. Regional DEAM's (with support from Drainage teams/ Regional Weather & Climate Change Lead) to develop and implement plans to manage risk (involving EA/NRW partners). Regions to lead date tbc Work to include:
 - Review locations of concern from mapping exercise and as identified by EA and NRW that NR are not currently aware of.
 - identify the nature of the risks arising from the overtopping and/or failure of the flood defence
 - develop the requirements for inspection, monitoring and maintenance for each organisation
 - specify how information is communicated so that each organisation can manage its own risks appropriately
 - determine how lessons will be learned across all of these organisations where overtopping and failures of tidal flood defences occur.
18. Update MoU's with EA and NRW – TA and Wales Route lead – Dec 2025

Evidence required to support closure of recommendation

Mapping work
Updated MoU's
Updated IWMPs for key locations

Recommendation 5

The intent of this recommendation is to improve interaction between Network Rail and local authorities responsible for tidal flood defences in Scotland where the operation of these defences affects railway safety. This includes consideration of railway-specific risk such as localised flooding leading to washout of material supporting the track resulting in a serious accident.

Network Rail should liaise with local authorities in Scotland who are responsible for tidal flood defences to identify any risks arising from their overtopping and/or failure that could adversely affect the safety of Network Rail infrastructure.

Where such locations are identified, Network Rail should undertake the following:

- agree a shared understanding of roles and responsibilities in the management of flood defences, including where railway infrastructure (such as embankments) forms an integral part of the flood defence.
- ensure processes are provided to identify, and assign to the appropriate organisation, the actions required at each flood defence location to maintain railway safety. This should include:
 - identifying the nature of the risks arising from the overtopping and/or failure of the flood defence
 - developing the requirements for inspection, monitoring and maintenance for each organisation
 - specifying how information is communicated so that each organisation can manage its own risks appropriately
 - determining how lessons will be learned across all of these organisations where overtopping and failures of tidal flood defences occur.

As part of this work, Network Rail and local authorities responsible for tidal flood defences in Scotland, should review and where necessary, improve any relevant existing agreements such as Memorandums of Understanding.

ORR decision

17. See para 15.

Information in support of ORR decision

18. On 4 November 2023 Network Rail provided the following initial response:

Action Plan

Please provide milestones with dates

Scotland's Railway plan to discharge this recommendation through direct liaison with local authorities via the Society of Chief Officers of Transportation (SCOTS) flood risk management group. This group meets quarterly. The next meeting is November 2023. We have already agreed an agenda item at that meeting.

- Table discussion at SCOTS Flood Risk Management Group on Haddiscoe recs – November 2023
- Agree shared understanding of roles and responsibilities – March 2024
- Identify any risks arising at locations which may affect the railway and share at SCOTS - June 2024
- Table discussion at SCOTS Flood Risk Management Group to check effectiveness of action plan – November 2024

Evidence required to support closure of recommendation

- Record of attendance at SCOTS Flood Risk Management Group
- Copies of presentations given
- List of locations checked / shared with local authorities at SCOTS Flood Risk Management Group

Supporting information from The Society of Chief Officers of Transportation in Scotland

The Society of Chief Officers of Transportation in Scotland (SCOTS) was founded in 1996 following a change in local government. It is a strategic body comprising of transportation professionals from all the 32 councils and the seven regional transport partnerships. The society's work involves improving performance and innovation in the design, delivery and maintenance of transportation systems.

This is done by actively influencing important aspects of transportation at the highest levels in Scottish Government by responding to consultations from Government, providing advice on legislation as it is developed or implemented, advising COSLA, local authorities and stakeholders. Another key way in which this is achieved is by communicating the important role of transportation in the current financial climate and dealing with the related issues of sustainability such as economic, environmental and social factors.

It is also our priority to improve the performance in the way things are done. This could be by developing best practice through publishing guidelines such as the SUDS for Roads or through training courses for staff across Scotland. It can also be achieved through partnership working where issues are identified such as the need to have a Scottish road maintenance condition survey. This has proved to be very effective, and another project is in progress to enhance road asset management plans in a standard way across Scotland.

SCOTS is also involved in research in key areas which affect local authorities through working with stakeholders such as Transport Scotland. An important role is

to encourage networking and sharing of information amongst members and stakeholders.

The society is able to call on the first-class professional experience of its membership in order to deal with today's and tomorrow's transportation needs.

