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31 March 2022

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

Dear Andrew,

**RAIB Report: Freight train derailment at Willesden High Level Junction, north-west London on 6 May 2019**

I write to provide an update<sup>1</sup> on the action taken in respect of recommendation 3 addressed to ORR in the above report, published on 25 August 2020.

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 5 April 2022.

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

### Recommendation 3

*The intent of this recommendation is to ensure the timely identification of unsafe changes in track geometry arising from known defects in supporting earthwork structures.*

Network Rail should review and update, as necessary, its processes and guidance for the management of earthwork structures such that when ongoing movement is identified in a supporting earth embankment adequate monitoring of the track is established. The frequency of the monitoring and associated alert arrangements need to be such as to allow timely action to be taken in the case of a rapid deterioration of the track geometry, in order to prevent any impact on the safe running of trains. It should also review and enhance the arrangements for the department responsible for management of earthwork structures and the department responsible for track maintenance to inform the other of the potential susceptibility and, therefore, the need for enhanced monitoring

#### ORR decision

1. Network Rail have taken actions to address this recommendation in conjunction with recommendation 3 from the RAIB report *Train collision with material washed out from a cutting slope at Corby, Northamptonshire, 13 June 2019*.
2. A review of existing documents was done by Network Rail geotechnical and track specialists. The working group reviewed the recommendation in context of existing control documents: NR/L2/CIV/086 “Management of Earthworks” Manual (Issue 10) and NR/L2/TRK/001 “Inspection and Maintenance of Permanent Way” Manual (Issue 19). Among the conclusions of the review was that earthwork evaluations should consider changes to track geometry.
3. Two changes have been implemented to NR/L2/CIV/086/Mod.01 “Earthwork Evaluations” to address this recommendation. These changes have been published in NR/L2/CIV/086 (Issue 11) and summarised in section 2.2.1 and 2.2.2.
4. A new version of NR/L2/CIV/086 (issue 11) has been issued and includes a requirement for the Earthworks Manager to notify the TME and IME if an escalating threat to the track geometry or gauge is identified. A reciprocal clause to this has been included in Standard NR/L2/TRK/001- Inspection and Maintenance of Permanent Way. Network Rail provided assurances regarding the process for risk assessment and the trigger points to initiate and record the Earthwork Management Control Levels.
5. An amendment to the TRK/001/Mod11 is due for publication in March 2022, which includes a reciprocal clause that the TME / IME should contact the Earthworks Manager if any significant track geometry changes are identified.
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

- has taken action to implement it

**Status: Implemented.**

### **Previously reported to RAIB**

7. On 24 August 2021 ORR reported the following:

Following challenge from ORR, Network Rail have provided a revised plan aimed at improving communication and transfer of information and between Track Maintenance Teams and Earthwork Management Teams, such that when ongoing movement is identified in a supporting earth embankment adequate monitoring of the track is established.

### **Update**

8. On 18 October 2021 Network Rail provided the following closure statement:



Closure  
Statement\_Willesde

## Previously reported to RAIB

### Recommendation 3

*The intent of this recommendation is to ensure the timely identification of unsafe changes in track geometry arising from known defects in supporting earthwork structures.*

Network Rail should review and update, as necessary, its processes and guidance for the management of earthwork structures such that when ongoing movement is identified in a supporting earth embankment adequate monitoring of the track is established. The frequency of the monitoring and associated alert arrangements need to be such as to allow timely action to be taken in the case of a rapid deterioration of the track geometry, in order to prevent any impact on the safe running of trains. It should also review and enhance the arrangements for the department responsible for management of earthwork structures and the department responsible for track maintenance to inform the other of the potential susceptibility and, therefore, the need for enhanced monitoring

### ORR decision

1. Following challenge from ORR, Network Rail have provided a revised plan aimed at improving communication and transfer of information and between Track Maintenance Teams and Earthwork Management Teams, such that when ongoing movement is identified in a supporting earth embankment adequate monitoring of the track is established.
2. 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 implement it by 31 December 2021.

**Status: Implementation ongoing. ORR will advise RAIB when actions to address this recommendation have been completed.**

### Information in support of ORR decision

3. On 17 October 2020 provided the following initial response:

#### **Action Plan**

*Network Rail Geotechnical and Track departments will work together to:*

1. *Review the following documents:*
  - *NR/L2/CIV/086: Management of Earthworks Manual*
  - *NR/L2/CIV/086/Mod01: Earthwork Evaluations*
  - *NR/L2/CIV/086/Mod04: Earthwork Interventions*
  - *NR/L2/CIV/086/Mod05: Earthwork Mitigations*
  - *NR/L2/CIV/086/Mod09: Earthworks Adverse / Extreme Weather Risk Assessment*

- *NR/L2/TRK/001 (all modules)*
2. *Identify deficiencies in existing control measures that could lead to rapid deterioration of the track geometry as a result of earth embankment failure;*
  3. *Consult the RAM(G) & RAM(Track) Asset technical Review (ATR); and review any local procedures / documents to identify best practice in recording the decision making for monitoring and mitigations;*
  4. *Review the need for formalising periodic review of earth embankments susceptible to progressive rapid failure, as part of routine asset management process between geotechnical and track asset management teams. Update control documents as necessary;*
  5. *Review the need for formalising the decision-making processes for earth embankment and track assets vulnerable to progressive rapid failure of embankments. Update control documents as necessary.*

*The report and action plan was briefed at the Geotech ATR and will be briefed by Dec 2020 at the Track ATR. The Directors of Engineering and Asset Management will also be asked to act locally so that the intention of the recommendation is achieved in practice while the standards are being updated.*

4. On 29 April 2021, in response to questions raised by ORR, Network Rail provided the following update:

*This action plan (Version 2) follows a discussion held between Network Rail and ORR on 8<sup>th</sup> March 2021 regarding the scope of work required to address this recommendation.*

*ORR and Network Rail were in general agreement that formalised communications and transfer of information and between Track Maintenance Teams and Earthwork Management Teams will help achieve timely action when implementing monitoring and mitigation measures for these assets.*

*Therefore, Network Rail will:*

1. ***Review and update as necessary NR/L2/CIV/086: Management of Earthworks Manual and NR/L2/TRK/001 and formalise a structured and documented Interdisciplinary Earthwork Asset Review held between Track Maintenance and Earthwork Managers as part of routine asset management processes. This will formalise communications and decision making on mitigations between Track and Earthworks.***

*ORR feedback on the 8<sup>th</sup> March advised that Network Rail should consider further what the triggers & thresholds are for “ongoing [earthwork] movement” and the associated procedures (process-flow) to carry out adequate monitoring. Noting the existing process flow diagrams/framework in NR/L2/CIV/086 (notably Mod.1 [evaluations], Mod.5 [mitigations], Mod.6 [monitoring] and Mod.7 [operational restriction]), Network Rail will:*

2. ***Review its existing processes including NR/L2/CIV/086: Mod5 [mitigations], Mod6 [monitoring] and Mod7 [operational restriction];***

**3. Consider triggers that indicate the need for enhanced monitoring or a Monitoring Action Plan (including the review frequency);**

**4. Review and update, as necessary, the decision-making process/ procedure that identifies the need for a Monitoring Action Plan.**

<b>Linked Action</b>	<b>Milestones</b>	<b>Target Dates</b>
1	Working group consensus on the requirement for Interdisciplinary Earthwork Asset Review for both Track and Earthworks Standards.	31.03.2021
2,3,4	Working group consensus on the decision-making processes/ procedures that lead to Monitoring Action Plan	23.08.2021
1,2,3,4	Stakeholder consultation and feedback through the ATR's on proposed changes/ updates to standards; Note: Circulation of DRAFT of changes to allow working into Winter operating procedures	26.08.2021
1,2,3,4	Stakeholder consensus and completion of all proposed updates to standards – (Standards Publication deadline)	01.10.2021
1,2,3,4	Updated standards published	04.12.2021

**Evidence required to support closure of recommendation:**

- 1) Deficiencies in the management of earthworks and track identified;
- 2) Updated control documents, including the briefing of changes to the earthworks and track RAM teams;
- 3) Enhanced and joined up asset management procedures between management of Track and Management of Earthworks to allow suitable monitoring and timely mitigation;