

**Oliver Stewart**  
**RAIB Recommendation Handling Manager**



22 December 2023

Mr Andy Lewis  
Deputy Chief Inspector of Rail Accidents

Dear Andy,

**RAIB Report: Collision between two road-rail vehicles at Cholmondeston, Cheshire on 19 September 2018**

I write to provide an update<sup>1</sup> on the action taken in respect of recommendations 1 & 2 addressed to ORR in the above report, published on 16 July 2019.

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 1 & 2 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.

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 1

*The intent of this recommendation is to prevent those operating and controlling road-rail vehicles from adopting unofficial operating methods during travelling.*

RSSB, in consultation with the industry, and involving due industry process, should review the effectiveness and practicality of the engineering and procedural controls permitted by RIS-1530-PLT to manage the travelling of road-rail vehicles safely, taking into account reasonably foreseeable misuse by machine operators and machine controllers, and make changes to the standard, as necessary. This review should include consideration of the following:

- requirements for visibility of the line ahead, taking into account that road-rail vehicles generally spend as much time travelling in reverse as they do forwards (this will be particularly applicable for conversions of unidirectional road vehicles); and
- requirements for managing speed - in particular whether use of a speedometer is an acceptable means of managing speed where the machine's capability is much greater than its permitted maximum.

### ORR decision

1. RSSB has reviewed RIS-1530-PLT, in consultation with relevant industry representatives, through the plant standards committee.
2. Changes to the guidance standard cover the key points in the recommendation, including foreseeable misuse by machine operators and machine controllers in sections G 5.1.4 (Design), G 5.1.5 (Design & Misuse) and G 5.11.26 (Operator Misuse); visibility of the line ahead in forward and reverse mode in Clause 5.9.1.1 and 5.9.1.2; and requirements for managing speed clause 5.9.1.2 or c) Ground staff shall control reverse movements in conjunction with the operator.
3. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, RSSB has:
  - taken the recommendation into consideration; and
  - has taken action to close it

**Status: Closed.**

### Previously reported to RAIB

4. On 16 June 2020 ORR reported the following:  
RSSB have accepted the recommendation and have developed a plan for making changes to RIS-1530-PLT (Rail Industry Standard for Technical Requirements for On-Track Plant and their Associated Equipment and Trolleys), principally around permitted options for plant in 'travelling mode'.

### Update

5. On 16 November 2023 RSSB provided the following update:

As you know from our previous updates, RSSB accepted the recommendation and consulted with the Plant Standards Committee (PLT SC) with a view to updating RIS-1530-PLT issue 6 (Technical Requirements for On-Track Plant and Their Associated Equipment and Trolleys) in accordance with the recommendation's intent. Specifically, strengthening clause 5.9.1 ('Travelling mode') to provide more clarification in the guidance on the permitted options.

RSSB consulted with PLT SC on 29 August 2019, gaining approval to update RIS-1530-PLT issue 6. The work was included as part of a full revision of RIS-1530-PLT, which was also supported by the Energy Standards Committee on 5 September 2019.

A project plan was formed, which was approved by PLT SC on 8 November 2019, after which drafting on this comprehensive project commenced. The completed document was then sent out for consultation. This ended on 22 June 2023. After all comments received had been addressed, RIS-1530-PLT Issue 7 was [published on the RSSB website](#) on 2 September 2023.

Clause 5.9.1 now reads:

5.9.1.1 When travelling in the forward direction, the track shall be visible from the driving position by direct line of sight for a distance equal to or greater than the braking distance at maximum speed on dry, flat, level track.

5.9.1.2 If such visibility is not achievable in the reverse direction because of the physical design of the machine, then: a) Space shall be provided for an assistant (provided with separate controls at that position to stop the movement of the machine, as set out in 5.7.2 or 5.7.3, and sound a warning, as set out in 5.15.2), where there is sufficient visibility, by direct line of sight, to be able to stop clear of any track obstruction or stop signal; or b) Closed circuit television (CCTV) shall be provided at the driving position, meeting the requirements of Appendix N, and: i) The CCTV shall have a field of view both in the immediate vicinity of the rear of the machine and into the distance along the track sufficient to be able to stop clear of any track obstruction or stop signal when moving along the track at maximum travelling speed. ii) The camera and screen shall provide a true rendition of the scene and be capable of distinguishing between white, red, yellow and green lights in all lighting conditions.

c) Ground staff shall control reverse movements in conjunction with the operator.

5.9.1.3 When selecting from the options a), b) and c) above, the corresponding limitation on travelling in reverse shall be shown on the ECC and included in the instruction handbook, as set out in 10.1.2.4 b). 5.9.1.4 Where it is intended that reverse movements in travelling mode are to be controlled by ground staff, the maximum speed of the machine shall be limited by engineering means to 3 mph (5 km/h). 5.9.1.5 RRV excavators, or other machines that require to be turned to achieve suitable vision in the opposite direction, shall either be fitted with a CCTV system (as set out in 5.9.1.2 b)) or the ECC shall be endorsed with the requirement that 'the machine is to proceed at walking speed and ground staff control the movement in reverse until the superstructure can be slewed to face direction of travel' and included in the instruction handbook, as set out in 10.1.1.3 l).

*As a result of this work, RSSB considers this recommendation to be closed.*

## **Recommendation 2**

*The intent of this recommendation is to prevent operational misuse of existing RRVs when travelling.*

Ahead of any changes resulting from recommendation 1, Network Rail should review all road-rail vehicles that are based on unidirectional road vehicles that it permits to operate on its infrastructure, to understand the potential for foreseeable operational misuse when travelling in the reverse direction. It should introduce or amend any mitigations that this review identifies as being necessary to manage the risk of operational misuse. The review should include consideration of the following:

- visibility of the line ahead, particularly in the reverse direction; and
- potential for operators to exceed prescribed speed limitations.

## **ORR decision**

6. In response to the recommendation, Network Rail conducted a review of 396 unidirectional road rail vehicles permitted to operate on Network Rail infrastructure. The review found the potential for operational misuse is a mixture of behaviours, pressure and machine design. The issue of behaviours and competence is being considered by the Network Rail Machine Controller (MC) working group as part of the response to Rochford rec 1 (RAIB Report 08/2020).

7. Following the review, Network Rail issued safety advice for On Track Plant (OTP) travelling in reverse, restating the standards to be followed and issues to consider during planning. Network Rail has also mandated all OTP competence holders to undertake an annual capability conversation (ACC) or equivalent, to check competence levels and requirements. Network Rail also identified a number of recommendations to be taken into consideration by RSSB as part of the review of RIS-1530-PLT.

8. 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 close it

**Status: Closed.**

## **Previously reported to RAIB**

9. On 16 June 2020 ORR reported the following:  
Network Rail has conducted a review of its On-Track Plant fleet to identify vehicles with a potential for foreseeable operational misuse when travelling in the reverse

direction. A feasibility study is being carried out and changes will be made where justified.

## Update

10. On 1 December 2020 Network Rail provided the following closure statement and supporting evidence:



Closure Statement 01  
12 2020\_Rec 2 Collisi



NR\_L2\_CTM\_025  
(NR\_BS\_LI\_448).pdf



Safety-Advice-NRA1  
9-10-OTP-Travelling-!



System verification  
spreadsheet.xlsm



Supplier Product  
Matrix.xlsx



MSF-178 OTP CCTV  
Report November 20:

## Recommendation 1

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RSSB, in consultation with the industry, and involving due industry process, should review the effectiveness and practicality of the engineering and procedural controls permitted by RIS-1530-PLT to manage the travelling of road-rail vehicles safely, taking into account reasonably foreseeable misuse by machine operators and machine controllers, and make changes to the standard, as necessary. This review should include consideration of the following:

- requirements for visibility of the line ahead, taking into account that road-rail vehicles generally spend as much time travelling in reverse as they do forwards (this will be particularly applicable for conversions of unidirectional road vehicles); and
- requirements for managing speed - in particular whether use of a speedometer is an acceptable means of managing speed where the machine's capability is much greater than its permitted maximum.

### ORR decision

1. RSSB have accepted the recommendation and have developed a plan for making changes to RIS-1530-PLT (Rail Industry Standard for Technical Requirements for On-Track Plant and their Associated Equipment and Trolleys), principally around permitted options for plant in 'travelling mode'.

2. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, RSSB has:

- taken the recommendation into consideration; and
- is taking action to implement it by June 2022

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

### Information in support of ORR decision

3. On 12 September 2019 RSSB provided the following initial response:

*RSSB accepts the recommendation and consulted with the Plant Standards Committee on 29 August 2019, gaining approval to update RIS-1530-PLT issue 6 (Technical Requirements for On-Track Plant and Their Associated Equipment and Trolleys). Specifically, the guidance associated with clause 5.9.1 ('Travelling mode') will be strengthened to provide more clarification in the guidance on the permitted options. This amendment will be included as part of a full revision of RIS-1530-PLT that will be undertaken as RSSB Standards Project 19-006, which was approved by the Plant Standards Committee on 29 August 2019 and supported by the Energy Standards Committee on 5 September 2019. We will provide updates in due course.*

4. On 7 May 2020, RSSB provided the following update as part of the periodic update it provides to ORR on progress with RAIB recommendations assigned to them:

*Period 7 update:*

*The project is running to plan. The PLT SC has approved the proposal for change. The project is currently being defined with a view to taking a project plan to PLT SC in November 2019, which will then inform the request for investment in December 2019.*

*Period 8 update:*

*The project plan was approved by Plant Standards Committee on 08/11/29. The project team are preparing project documentation to inform the request for investment in December 2019.*

*Period 10 update:*

*The project team is now drafting and reviewing documents related to RIS-1530-PLT and will be engaging with key industry stakeholders. Publication date is June 2022.*

*Period 11 update:*

*This project is running on track. The project team are now drafting and reviewing documents related to RIS-1530-PLT, and will be engaging with key industry stakeholders.*

*Period 12 update:*

*04/03/2020 - This project is running on track. The project team are now drafting and reviewing documents related to RIS-1530-PLT and will be engaging with key industry stakeholders.*

*Period 13 update:*

*01/04/2020 - The project team is now drafting and reviewing documents related to RIS-1530-PLT will be engaging with key industry stakeholders.*

*Period 1 update:*

*29/04/2020 -The project team are now drafting and reviewing documents related to RIS-1530-PLT and will be engaging with key industry stakeholders.*

## Recommendation 2

*The intent of this recommendation is to prevent operational misuse of existing RRVs when travelling.*

Ahead of any changes resulting from recommendation 1, Network Rail should review all road-rail vehicles that are based on unidirectional road vehicles that it permits to operate on its infrastructure, to understand the potential for foreseeable operational misuse when travelling in the reverse direction. It should introduce or amend any mitigations that this review identifies as being necessary to manage the risk of operational misuse. The review should include consideration of the following:

- visibility of the line ahead, particularly in the reverse direction; and
- potential for operators to exceed prescribed speed limitations.

### ORR decision

5. Network Rail has conducted a review of its On-Track Plant fleet to identify vehicles with a potential for foreseeable operational misuse when travelling in the reverse direction. A feasibility study is being carried out and changes will be made where justified.

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 implement it by November 2020.

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

### Information in support of ORR decision

7. On 4 December 2019 Network Rail provided an initial response setting out how they were going to deliver the project by November 2020. On 11 June 2020, Network Rail provided an updated version of the delivery plan, showing the latest position and that they were still on track to complete the project by November 2020:

#### ***Delivery Plan***

1. ***Publish Safety Communication – Complete.***  
*Action completed prior to publication of initial action plan.*
2. ***Identify affected OTP – Complete.***  
*Action completed prior to publication of initial action plan.*
3. ***Review clarity of existing operational – Complete.***  
*Action completed prior to publication of initial action plan.*



4. *Commence collection of functional capability information for affected OTP – **Complete.***
5. *Complete collection of functional capability information – **ongoing.***  
*We have identified 40 vehicles that are not fitted with CCTV and will be subject to final confirmation when COVID restriction permits further inspection of some of these machines*
6. *Application for seedcorn funding (Feasibility study into currently allowed assisted engineering operational control (CCTV technology) – **Complete.***  
*Application made on time, following NR protocol a Managed Services Framework contract was engaged. This required a period of clarification with the supplier which in this case was ALTRAN. Following mutual understanding between ALTRAN and NR a quote was sent to NR. This quote exceeded initial budget. A decision was made to revise initial application, this was approved, and a new application was made. Action delayed by several months because of time taken during clarification and reapplication.*
7. *Gain seedcorn funding - **Complete.***
  - *Funding gained (initial application) – January 2020*
  - *Funding gained (re-application) – May 2020*
8. *Commence feasibility study - **Complete***  
*Kick off meeting held on 5<sup>th</sup> June 2020. Study expected to take 13 weeks.*
9. *Publish recommendation from OTP fleet survey, where appropriate – ~~May 2020.~~ **August 2020.***
10. *Publish outcome of feasibility study, where appropriate – ~~August 2020.~~ **September 2020.***
11. *Implement recommendations and outcome, where applicable – **October 2020.***
12. *4 weeks contingency (Contracts and procurement process, standards change process (if applicable)) – **November 2020.***