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OFFICE OF RAIL REGULATION

18 July 2014

Ms Carolyn Griffiths
Chief Inspector of Rail Accidents
Rail Accident Investigation Branch
Cullen House
Berkshire Copse Road
Aldershot GU11 2HP

Dear Carolyn

RAIB report: Freight train derailment at Reading West Junction

I write to report on the consideration given and actions taken in respect of recommendations 4 and 5 of the above report which were addressed to ORR when the report was published on 28 January 2013.

The annex to this letter provides details of the consideration given and actions taken in respect of the recommendations where recommendation 4 is in progress and recommendation 5 has been implemented.

We do not intend to take any further action in relation to recommendation 5; we will update you on recommendation 4 by 31 December 2014.

Yours sincerely

Chris O'Doherty

Recommendation 4

The intention of this recommendation is to prevent track geometry faults being undetected after mechanised track maintenance work is completed. The need for a TQS to inspect and measure the track during and after this work is an important opportunity to identify faults that have formed, or existed beforehand. Recognising that current inspection arrangements may not result in reliable detection, Network Rail should assess and implement practical improvements. These could include consideration of the continuous recording of track geometry using approved manual methods (with allowance made for track deflection due to vehicle loading) and taking full advantage of the track measurement capabilities of tamping machines and similar track maintenance plant.

Network Rail should review and, where necessary, improve its processes for the detection of track geometry faults after mechanised track maintenance work to reduce the likelihood of such faults going undetected before the railway is handed back into service.

Previously reported on 6 December 2013

1. We previously reported that Network Rail had reviewed its processes as defined in the NR/L2/TRK/001 suite of standards and had confirmed that they adequately defined the planning of effective mechanised maintenance and highlighted the risks associated with crossover roads. Network Rail were also reviewing whether there was a case to require all tamping operations to be recorded using Data Recording Systems (DRS) and the implications of making the resources available to achieve this (This has now been addressed in the Network Rail closure statement relating to recommendation 5).

Update

2. On 13 May 2014 the update below was received from Network Rail:

Reading West Rec 4
Closure Statement RE

This document considers the following areas:

- *Review knowledge and application of processes for the detection of track geometry faults after mechanised track maintenance;*
- *The application of continuous recording of track geometry;*
- *Training of Track Quality Supervisors (TQS) and line management monitoring of behaviour change*
- *Briefing of the Route On-Track Machine Engineers (RoTME) of the need and benefits of track geometry monitoring post work, best practice site and resource planning to achieve quality improvement*

Conclusion

Network Rail has reviewed its processes for the detection of geometry faults after mechanised track maintenance work. These processes are defined within the Network Rail suite of standards, NR/L2/TRK/001 Inspection and Maintenance of Permanent Way and considered appropriate in the management of associated risk. Evidence suggests

Infrastructure Maintenance Engineers be made accountable for organisational inconsistency and delivery of any changes.

Current work streams supporting the development of Business Critical Rules and the national on-track machine strategy are further enhancing our approach in the management of risks associated with geometry faults and the introduction of improved on-track machine capability. Means of Compliance 5142 applies to track geometry control.

The development of competency, training and awareness are core elements of these programmes. All are on-going programmes within normal business activities.

Future test of effectiveness

- *Delivery units to confirm line management responsibility for TQS to promote ownership of end product quality, process improvement and technical briefing (Owner- Reliability Improvement Manager [Track]; IMEs accountable for system integrity)*
- *Structured review of Route tamper planning processes, creation and use of TQS packs with the inclusion of key worksite details (e.g. priority working as per Bordesley) (Owner – Reliability Improvement Manager [Track] – Network Operations*
- *Structured site verifications to test processes and product (Owner – Route Asset Managers [Track], Professional head [Track] within context of wider assurance framework)*
- *Monitor usage of post work track geometry recording through PHIRES forms. (OWNER – Reliability Improvement Manager [Track] – Network Operations with significant input from NDS)*
- *Review implementation of the new TQS training course with the emphasis on quality related behaviour and controls (owner – Professional Development and Training).*

3. Network Rail also provided the following information in relation to the fitment and use of Data Recording Systems.

Fitment and use of
Data Recording Syste

ORR decision

4. Network Rail has reviewed its processes to detect geometry faults, however the evidence provided leaves the issues of the fitment and use of DRS unanswered. We do not currently know if DRS will be retrofitted or any reasoning behind the decision or whether the use of DRS will be mandated. We have written to Network Rail to obtain more information before we can fully consider the response to this recommendation..

Status: In progress. We will update RAIB by 31 December 2014

Recommendation 5

The intention of this recommendation is for Network Rail to review its current processes for mechanised track maintenance, and develop and make available best practice guidelines that minimise the formation of geometry faults on crossovers and similar sections of track.

Network Rail should establish best practice guidelines for mechanised track maintenance work in areas of switches and crossings that minimise the risk of track twist and other geometry faults forming, and remaining on, crossovers and similar sections of track. It should make its track maintenance teams aware of these and the importance of following them, wherever practicable.

Previously reported on 6 December 2013

5. We previously reported that Network Rail had undertaken a review of the suite of planning, implementation and support documents supporting mechanised track maintenance; specifically:

- *NR/GN/TRK/7001 –TWI3041, Inspection Of Non Recorded Track*
- *NR/GN/TRK/7001 –TWI3043, Level Crossing Inspection*
- *NR/L2/TRK/001 – mod13, Confirming track is safe for selected linespeed after work*
- *NR/L2/TRK/3201, Management of Tight Clearances and Track Position*
- *NR/L3/TRK002/E01, Track Maintenance Handbook - Plain Line Tamping*
- *NR/L3/TRK/3220, Planning of on-track machines*
- *NR/L3/TRK/3230, Control of on track machines*
- *NR/L3/TRK3241, Marking of track for tamping machines*
- *NR/L3/TRK/3242, Marking of track for stone blowing machines*
- *NR/L3/TRK/3250, Post-work activities following works using on-track maintenance machines*

6. The review concluded that the framework of existing standards adequately defines the necessary actions, however it was considered that a further review of the method of applying these standards, namely via the use of the Data Recording System (DRS) on Tampers should be undertaken.

7. On 13 May 2014 Network Rail provided the update below:

The full closure statement is below:

Reading West Rec 5
Closure Statement RE

This document considers the following areas:

- *Review of the best practice guidelines for mechanical track maintenance within Switches and Crossings (S&C)*
- *Briefing of the route On-Track Machine Engineers*
- *Training of Track Quality Supervisors and Technical Staff*
- *Consideration of the continuous recording of track geometry*

Conclusion

Network Rail has reviewed its current best practice guidelines for mechanised track maintenance with particular emphasis on minimising the formation of geometry faults on crossovers and similar sections of track; these processes are defined within the Network Rail suite of standards. The review has concluded that these guidelines are considered appropriate in the management of associated risk. Through the consideration of the areas described and the resulting actions the intent of this recommendation has been met. Consideration has also been given to the action plans and improvements made in the

Network Rail response to the RAIB investigation of the Bordesley Junction derailment in particular recommendation 4 (referenced within the closure statement).

National RoTME have been briefed on the causal factors and proposed solutions. Adoption of these proposals as routine methods of working is a key activity. The initial approach is awareness briefing to the TME staff and RoTME teams. The Business Critical Rules Programme is incorporating key risk related activities into role manuals and processes. The development of competency, through awareness and training, is a core element of this programme and a priority. Emphasis is on planning and practical issues. The national on track machine strategy led by NDS is addressing the introduction of improved on track machine capability. The route strategies to achieve geometry standards and the management of risks associated with geometry faults, are ongoing programmes within normal business activities.

Future test of effectiveness

- *Selective verification of tamper planning process and the adoption of best practice (Owner – Reliability Improvement Manager, Network Operations)*
- *Sample verification of site selection and On Track Machine deployment; use of LADS (Linear Asset Decision Support tool) to inform site definition. (Owner –Route Asset Managers [Track]).*
- *Sample manual resources planned to precede and coincide support to OTM on site (Owner – Reliability Improvement Manager, Network Operations)*
- *Confirm best practice guidelines referenced in Business Critical Rules documentation*

ORR decision

8. Network Rail has carried out a review and confirmed it is content with its current guidelines. Additionally it has improved the training of TQSs and technical support staff and re-briefed the ROTMEs.

9. Having considered the additional response and having examined the material provided by Network Rail, ORR has concluded that in accordance with the Railways 9Accident Investigation and Reporting) Regulations 2005, Network Rail has:

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

Status: Implemented