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Ms Carolyn Griffiths
Chief Inspector of Accidents
Cullen House
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Hampshire GU11 2HP

Dear Carolyn

RAIB report: Derailment at Bordesley Junction, Birmingham.

I write to update you on recommendations 1, 2 and 4 of the above report which were addressed to ORR when the report was published on 19 September 2012.

The annex to this letter gives the detail of the actions taken and the consideration given in relation to the recommendations, where recommendations 1 and 2 are reported as 'in progress' and recommendation 4 is reported as 'implemented'.

We expect to be able to update you on recommendations 1, and 2 by 30 June 2014. We do not propose to take any further action in respect of recommendation 4 unless we become aware that anything we have reported becomes inaccurate in which case we will write to you again.

Yours Sincerely

Chris O'Doherty



Consideration by ORR

1. All four recommendations in the report were addressed to ORR when RAIB published the report on 19 August 2012. We responded to RAIB on 1 August 2013 reporting that all 4 recommendations were 'in progress'. Further consideration given and actions taken are detailed below in relation to recommendations 1, 2 and 4. We expect to provide an update on recommendation 3 by 31 January 2014.

Recommendation 1

The intent of this recommendation is to reduce the risk of operating a privately owned wagon over the national network once a fleet wide problem has been identified. It aims to improve the likelihood that the Network Rail Network Certification Body (previously known as the PWRAMG), in conjunction with private wagon owners, will implement short term measures, such as additional maintenance checks, to manage the risk in advance of a longer term solution.

Network Rail through its Network Certification Body should review its own processes to make sure that the risks of continuing to operate a fleet of wagons are managed once a fleet wide problem is discovered. The review should consider including processes for:

- assessing the risk of continued operations and identifying the need for any immediate measures that need to be taken to control the risk;
- identifying the long term measures that need to be taken to resolve the fleet wide problem; and
- assigning responsibilities, priorities and timescales for implementing and managing both the immediate and long term measures.

Once the review has identified what reasonable improvements can be made to the processes, the Network Certification Body should implement them.

Previously reported to RAIB on 1 August 2013

2. We previously reported that Network Rail, through its Network Certification Body, has an established set of working practises and systems that enable the management of risk arising from continued operation of wagons when a fleet wide problem is identified. However, Network Rail has recognised that there is a need for improvement in the quantitative risk assessment process and the prioritisation of internal and external activities. Network Rail's original response is at Annex B. The original timescale for completion was 31 May 2013, however we were aware that this had slipped.

Update

3. On 26 July 2013, Network Rail provided the information below:

Procedure developed and risk assessment undertaken. Identified on going level of risk with MKIV's which require further reduction.

Short term measures in place:

- *Current vehicles going through mods program.*
- *Outstanding unmodified vehicles are dynamically risk assessed for priority attention according to evolving empirical and field data and mileage assessment.*

Long term measures in place:

- *Wheelchex data being monitored on both MKIV and MKII's. Action plan in place to continue capture of seasonal variation data for use in final assessment.*
- *Brake testing being undertaken to determine if response times are still within acceptable limits. NCB Engineering team members are actively progressing workstreams with owner and maintainer to target plan.*

Revised timescales: *The review has identified a number of improvement measures and actions that still require to be implemented in conjunction with the owner and maintainer. Some of the longer term measures that were identified after the initial RAIB report, including additional brake system testing, will require additional time for set up and implementation. This is presently targeted for completion by end of September – 30/09/13.*

Interim mitigation: *Interim risk has already been reduced through the release of POCL 651 Issue 2, which requires periodic inspection and the implementation of the modifications program. Monitoring of progress to achieve the additional testing program to the target plan is being undertaken on a monthly basis by the NCB engineering team together with the wagon owner, maintainer and RU.*

4. ORR became aware that Network Rail's programme had slipped and the timescale of 30 September had not been met. We wrote to Network Rail on 15 October 2013 requesting an update and received the information below on 8 November 2013:

Short term measures:

1. *Current vehicles are still going through the modifications program with a level of 63% completion of the fleet so far. There has been slippage in the program of works attributed to owner and ECM who are responsible for organisational issues and additional works that have been introduced beyond the prescribed modifications.*
2. *The outstanding unmodified vehicles continue to be dynamically risk assessed for priority attention according to evolving empirical PPM and field data and mileage assessments that are being reviewed periodically.*

Long term measures in place:

1. *Wheelchex data is continuing to be monitored for both MKIV and MK II vehicles to identify any seasonal variation and for use in a final assessment.*
2. *Brake testing (which is not in the RAIB report) remains to be completed with owner and maintainer.*

The revised target completion date for the modifications is 30/04/14. We plan to seek closure of this recommendation with an accompanying action plan

demonstrating the proposed modification program and final date for completion of the prescribed modifications.

ORR decision

The delay to the end of April 2014 is not unreasonable considering that the opportunity is being taken to build in other reasonable adjustments and changes to the wagons.

Status: In progress, we will update RAIB by 30 June 2014

Recommendation 2

The intent of this recommendation is to prevent a PHA wagon from entering into service with worn suspension components, which can increase the likelihood of the suspension locking-up, increasing the risk of a derailment. This can be achieved through a detailed review, from first principles, of how the suspension components on a PHA wagon wear. The maintenance plan should then be revised as necessary. The review should also address the current anomaly in the PPM & VIBT maintenance plans which calls for certain components to be examined when they cannot be seen if the wheel set is in place.

Network Rail, through its Network Certification Body, and in conjunction with Lafarge Aggregates Ltd and Wabtec Rail Limited, should lead a fundamental review of how the suspension of the PHA wagon is maintained. The review should call upon relevant technical expertise to:

- look at how the suspension works as a whole and understand the role that each individual component performs; and
- use this knowledge to document the actions for maintaining a fully functioning suspension, which may include monitoring, measuring and setting limits for the permitted overall amount of wear in the suspension and also individual component wear, including specific actions and limits set to account for those components that are not fully visible when the wheel set is in place.

Once the review has decided what actions it is reasonable to take, they should be implemented in the maintenance plans for the PHA wagon fleet.

Previously reported to RAIB ON 1 August 2013

5. We previously reported that a further review of the PHA suspension is planned to be undertaken by the Network Rail Certification Body, in conjunction with Lafarge Aggregates Ltd, Wabtec Rail Ltd and other industry experts, to better understand the influence of the existing modifications on the suspension together with the present maintenance regimes. Network Rail's original response is at Annex B. The original timescale for completion was 31 May 2013; however we were aware that this had slipped.

Update

6. On 26 July 2013, Network Rail provided the following information:

We are continuing to harvest liner wear data with owners and maintainers. This is on-going and dependent upon progress of the overhaul program. In accordance with our action plan, further data is required for 6 months in order to arrive at an informed conclusion regarding extent of in service wear and on-going risk.

Revised timescales: *Further data relating to the wear characteristics of modified and unmodified vehicles requires to be collated from vehicles in service. This is being undertaken by the owner together with the maintainer and timescales are determined by factors within their control. Additional time is therefore required to capture and evaluate data from vehicles in service following modification. This is presently targeted for completion by end of November - 30/11/13.*

Interim mitigation: *In the interim period, continued exposure is being reduced by the program of modifications to the pedestal suspensions on the vehicles together with dynamic reassessment of priority vehicles in accordance with measured wear criteria. This is being monitored by the NCB engineering team together with wagon owner and the maintainer. Monitoring of progress to the target plan is taking place and being reviewed with the respective parties on a monthly basis.*

7. ORR became aware that Network Rail's programme had slipped and the timescale of 30 November 2013 was unlikely to be met. We wrote to Network Rail on 15 October 2013 requesting an update and received the information below on 8 November 2013:

Network Rail are continuing to harvest liner wear data of modified and unmodified vehicles with owners and maintainers and this is being affected by the slippage of the overhaul program which has prolonged the retrieval of data.

In accordance with our action plan, we anticipate data will still be required to be collated for at least 4 months after end November in order to arrive at an informed conclusion regarding extent of in service wear and on-going risk.

Additional time will be required to capture and evaluate data from vehicles in service following modification (or by alternative methods being considered). This was targeted for completion by end of November - 30/11/13 but will require an extension to 30/03/14.

In the interim period, we continued to diminish exposure by the program of modifications to the pedestal suspensions on the vehicles together with dynamic reassessment of priority vehicles in accordance with measured wear criteria. This is still being closely monitored by the NCB engineering team together with wagon owner and the maintainer. Monitoring of progress to the action plan continues to take place and is being reviewed with the respective parties on a monthly basis.

ORR decision

ORR continues to monitor progress with this recommendation and agrees in principle with the approach being taken, however, whilst understanding that Network Rail are to some degree reliant on WABTEC we do have some concerns about the

time being taken. ORR continues to monitor and intends to meet with Network Rail before 31 December 2013 to discuss progress.

Status: In progress – we will update RAIB by 30 June 2014

Recommendation 4

At present, Network Rail track quality supervisors will only be told the lines and mileages to be worked on during a shift, although sometimes they may be asked to give priority to part of the planned mileage. If their brief included information on what the work was aiming to achieve (eg to improve the general track quality, address a number of discrete track geometry faults, etc), Network Rail's track quality supervisors could make better informed decisions on what work to prioritise if the planned work needs to be changed at short notice (eg time is reduced due to a late start).

Network Rail should review and implement changes to its processes for briefing staff responsible for controlling the work carried out by *on-track machines*, so that their briefings will include information on whether any part of the work should be given priority over another and the reasons for such prioritisation.

Previously reported on 1 August 2013

8. We previously reported that Network Rail had reviewed the documentation relating to on track machine usage; specifically NR/L3/TRK/3239 and that Network Rail would create and cascade a brief during November 2012, from the Professional Head [Track], re-affirming the behaviors and knowledge exchange which is expected between the responsible Track Maintenance Engineer (TME) and the Track Geometry Supervisor (TGS). These would also be included in future TGS training material.

9. Network Rail gave a completion date of 31 May 2013 to permit the cascade process to work and embed with the right teams and confirmed it would monitor the implementation and adoption of the brief.

Update

10. Network Rail provided the following update on 6 November 2013:

Evidence of implementation of this cascade briefing has been confirmed through sampling a number of Delivery Units (Cardiff, Saltley and Sussex)

Within the remit of the of the Track Competency Delivery Group, Network Rail has also undertaken a review of NR/C&TM/TR/6 Track Geometry Supervisor training material (lesson plan). This has resulted in the enhancement of the message to be given to a TGS before any shift, specifically:

- *The purpose of their work for the shift;*
- *The extent and criticality of any key work;*
- *The priority of any key work in the event that the shift is curtailed or shortened.*

Further, session 6 of the training notes has been amended to emphasize the 'objective of the work' with the following discussion objective:

The sites identified for work will usually contain a range of track geometry faults which will need to be resolved. The planned removal of level 2 faults or the follow up work to repeat faults which have had manual intervention could also be included within the work mileage.

As TGS responsible for the integrity of the track after work, you must find out the extent of the work and any special areas for attention.

This is particularly in junction areas or where the time resource available to complete the work may be limited.

As part of your site preparation, you should confirm with the TME or NT OTM Engineer whether there are mileages or areas which require specific attention or priority.

At the end of the shift you must ensure that these areas have been completed, and in the extreme, take intervention action to protect traffic in accordance with TRK/001.

In planning the order of work, you should take into account the priorities required and the integrity of the end product. Product volumes and rates should never override the need for a quality finish and the checks on track integrity required before opening to traffic.

Within this training session, the derailment at Bordesley is used as a case study.

It is considered that the intent of this recommendation, to enable Network Rail's track quality supervisors to make better informed decisions on what work to prioritise if the planned work needs to be changed at short notice, has been met through the reinforcement of TME and RAM briefings as well as the review and updating of supporting training material and lesson plans.

ORR decision

11. Network Rail has confirmed it has cascaded the brief and provided ORR with a copy (Annex B). ORR has therefore 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

ORR does not intend to take any further action unless we become aware that the information above is inaccurate in which case we will write to RAIB again.

Status: *Implemented*