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1 August 2013

Ms Carolyn Griffiths
Chief Inspector of Accidents
Cullen House
Berkshire Copse Road
Aldershot
Hampshire GU11 2HP

Dear Carolyn

RAIB report: Derailment at Bordesley Junction

I write to report¹ on the consideration given and actions taken in response to the recommendations addressed to ORR contained in the above report published on 19 September 2012.

The annex to this letter provides the detail of the actions and consideration where all four recommendations are 'in progress'. We expect to update RAIB by 31 December 2013 on all four recommendations..

We expect to publish this response on our website on 16 August 2013.

Yours Sincerely

Chris O'Doherty

¹ In accordance with Railways (Accident Investigation and Reporting) Regulations 2005 Regulation 12(20(b))



Consideration by ORR

1. All four recommendations in the report were addressed to ORR when RAIB published the report on 19 August 2012. After considering the report and recommendations we passed recommendations 1, 2 and 4 to Network Rail and recommendation 3 to LaFarge asking them to consider and where appropriate act upon them and advise ORR of their conclusions
2. The consideration given and actions taken are detailed below.

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 Body¹¹ 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.

Actions taken or being taken to address the recommendation

3. In its response dated 11 December 2012 Network Rail explained:

Network Rail has through the Network Certification Body 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. These are generally based upon a qualitative assessment of the factors influencing the problem and are done in conjunction with Private Wagon owners and maintainers in order to implement short term measures and control risk.

It is recognised however that there is need for improvement in the quantitative risk assessment process and the prioritisation of activities internally and externally in response to findings of the risk assessment.

- *A procedure will be implemented that formalises the risk assessment process in response to a potential fleet wide issue and the identification of mitigating actions required to reduce risk to ALARP levels for continued operation of the vehicles.*

Systems are currently in place for the identification of long term measures and some progress has been made to date. However there is opportunity for improvement in these processes.

- *Further monitoring systems will be introduced to enable the acceleration of the process for identification of the long term measures to be undertaken. These will also include closer liaison with wagon owners, maintainers and railway undertakings.*
- *In addition to the existing systems for assigning responsibilities, priorities and timescales for implementing and managing both the immediate and long term measures, we will introduce additional periodic reviews to ensure tracking and completion of these activities between the respective stakeholders.*

Timescale: 31/01/13 for review; 31/05/13 for completion

ORR decision

4. the above timelines have not been met, therefore ORR cannot not fully consider the above response until it has seen the outcome of the review and received confirmation that the actions had been completed. We wrote to Network Rail on 4 July 2013 requesting updated timescales by 26 July 2013. We will consider these and update RAIB.

Status: In progress. We will update RAIB by 31 December 2013.

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 wheelset 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 wheelset 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.

Actions taken or being taken to address the recommendation

5. In its response dated 11 December 2012 Network Rail explained:

As a result of initial review and testing of the Gloucester MK IV PHA wagons an incremental design improvement to the suspension of the wagons is presently being implemented. This will have the effect of reducing some of the existing risk associated with the continued operation of these vehicles.

Additionally, an enhanced inspection and maintenance regime has been implemented which includes monitoring, measuring and setting limits for the overall amount of permitted wear in the suspension components.

POCL 651 Issue 2 has already been released which mandates the inspection criteria, actions and frequencies at which they must be undertaken.

A further review of the PHA suspension is planned to be undertaken by the Network Certification Body, in conjunction with Lafarge Aggregates Ltd, Wabtec Rail Limited and other industry experts to better understand the influence of the existing modifications on the suspension together with the present maintenance regimes. This may lead to further modelling and /or testing of the performance characteristics. Where deemed necessary, the VMI shall be adjusted to take into account the characteristics found

Timescale: 31/01/13 for review; 31/05/13 for completion

ORR decision

6. the above timelines have not been met, therefore ORR cannot not fully consider the above response until it has seen the outcome of the review and received confirmation that the actions had been completed. We wrote to Network Rail on 4 July 2013 requesting updated timescales by 26 July 2013. We will consider these and update RAIB.

Status: In progress. We will update RAIB by 31 December 2013

Recommendation 3

The intent of this recommendation is to reduce the risk of operating the PHA wagon fleet by implementing modifications that have been tested and shown to reduce the

number and duration of suspension lock-ups on these wagons. It will also require Lafarge to set a timescale for rolling out the modifications to all of its PHA wagons.

Lafarge Aggregates Ltd should, with reference to POCL 651, implement suspension modifications to its fleet of PHA wagons as soon as practicable to reduce the likelihood of suspension lock-ups.

Actions taken or being taken to address the recommendations

7. In its response on 19 December 2012 Lafarge Aggregates stated:

POCL 651 has been in force since December 2011. As such all wagons in the fleet have been through PPM/VIBT. During PPM/VIBT the requirements of the POCL are applied and any suspension units which fail the criteria have the defective parts replaced including the revised format wear plates.

Lafarge are also updating wagons on a campaign basis, by sending wagon sets to Wabtec at Doncaster. Lafarge are trying to prioritise wagons based on current wear condition and rakes which contain wagons which have triggered impact detectors although investigation of these wagons is not revealing any problems with the suspension or the wagon in general and therefore has not yet been part of the selection criterion. The current state of conversion is:

<i>Operational PHA wagons in the fleet</i>	<i>110</i>
<i>Wagons that have undergone full conversion</i>	<i>21</i>
<i>Wagons that have one end converted</i>	<i>10</i>
<i>Wagons currently undergoing conversion</i>	<i>5</i>

Providing that POCL 651 remains unchanged, it is anticipated that all PHSA wagons will be converted within 12 months.

ORR decision

8. Having considered the response from LaFarge Aggregates we had concerns about whether the timescale was achievable. We are aware that the National Certification Body (NCB) has also worked to facilitate the discharge of this recommendation. The NCB has informed ORR that the contents of POCL 651 were based upon an instrumented PHA wagon and it intends to determine if the requirement in POCL 651 is correct by re running the instrumentation of the suspension modifications given a period of service running (this may be done in conjunction with a trial of a new friction material within the liner being developed by Wabtec). The timescale for the completion of the review of POCL 651 is 31 December 2013.

Additionally, Network Rail has instructed Wabtec to undertake a braking test as Network Rail wishes to eliminate or prove a theory that the brake release timing was incorrect at the time of the incident. If the brake was late to release the last wagon

or wagons this would provide a very stiff suspension characteristic, so in effect lock the suspension.

Status: In progress, We will update RAIB by 31 December 2013

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

Actions taken or being taken to address the organisation

9. In its response dated 11 December 2012 Network Rail explained:

Network Rail have reviewed the documentation relating to on track machine usage. NR/L3/TRK/3230 Clause 9.1 is very clear stating:

"The TQS, ICC, and the on-call engineer shall determine whether the work shall proceed as planned, amend the OTM objectives, use the OTM on another site, or cancel the shift. Where treatment work is to proceed, the TQS, ICC and the on-call engineer shall agree what changes, if any, are required to the OTM objectives. Where necessary the TQS shall amend the OTM objectives accordingly.

The TQS shall supply to the machine operator the OTM objectives and the design methodology to be used."

Notwithstanding this, we will create and cascade brief during November 2012, from the Professional Head [Track], statements reflecting the concerns of the investigators and re-affirming the behaviors and knowledge exchange which is expected between the responsible engineer (TME) and the TGS. These will be included in future TGS training material.

There will be an opportunity to restate these issues at the TME conference to be held in January 2013.

A completion date of 31 May 2013 is to permit the cascade process to work and embed with the right teams.

This cascade will take the form of a short presentation which will be cascaded as follows:

- 1) PHT meeting - RAMs
- RAMs - TME – TGS
 - CDG for training material update.
 - 2) PHT meeting - Simon Hardy as chair ROTME meeting
 - 3) At the January 2013 TME conference (optional)
- * Implementation and adoption through Maintenance will be assisted, monitored and confirmed by Mark Prescott*

ORR decision

10. Network Rail has confirmed it has cascaded the brief and provided ORR with a copy. 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
- is taking action to implement it

ORR will consider the content of the brief and update RAIB when satisfied the brief has addressed the recommendation.

Status: in progress. We will update RAIB by 31 December 2013.