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OFFICE OF RAIL REGULATION

17 July 2012

Ms Carolyn Griffiths
Chief Inspector of Rail Accidents
Rail Accident Investigation Branch
Block A, 2nd Floor
Dukes Court
Dukes Street
Woking GU21 5BH

Dear Carolyn

Uncontrolled freight train run-back between Shap and Tebay, Cumbria

I write to report on the recommendations addressed to ORR in the above report, published on 15 August 2011.

The annex to this letter provides details of the consideration given/action taken in respect of each recommendation where recommendation 2 has been implemented[1] and recommendations 1, 3 and 4 are in progress.

We do not propose to take any further action in respect of recommendation 2 unless we become aware that any of the information provided becomes inaccurate, in which case I will write to you again[2]. We expect to update you with progress on recommendation 1, 3 and 4 by 31 January 2013.

We expect to publish this response on the ORR website on Tuesday 24 July 2012. Any comments you have would be appreciated by Monday 23 July 2012

Yours Sincerely

Chris O'Doherty

1 In accordance with Regulation 12(2)(b)(i)

2 In accordance with Regulation 12(2)(c)

Initial Consideration by ORR

1. All four recommendations in the report were addressed to ORR when the report was published on 15 August 2011.

2. After considering the report and recommendations ORR passed recommendation 1 to DB Schenker and recommendation 4 to the RSSB asking them to consider and where appropriate act upon them and advise ORR of their conclusions. Recommendations 2 and 3 were directed at ORR. Consideration given to each recommendation is included below.

Recommendation 1

The intention of this recommendation is for DB Schenker to reduce the number of shifts that cause fatigue. This recommendation may apply to other freight train operating companies.

DB Schenker should, in consultation with its drivers:

a. identify the shifts on which their drivers experience high levels of fatigue, and give particular consideration to the impact on drivers working the first in a series of night shifts;

b. improve the identified shifts, for example by changing the transition to them, their duration and the duties carried out on them, with shifts of the highest risk improved ahead of those of lower risk;

c. assess the findings of drivers on the changed shifts to confirm that those shifts are improved; and

d. share its findings with the Office of Rail Regulation

Actions taken or being taken to address the recommendation

3. The following response was received from DB Schenker on 26 October 2011

I can advise you that the recommendations contained within the above RAIB report have been reviewed by a panel of DB Schenker senior managers, including Directors of the company with specific responsibility for operational activities.

Whilst only recommendation 1 of the report is directed at DB Schenker, the panel noted and considered the requirements of all the recommendations contained within the report.

We consider that recommendation1 applies equally to all train operators, both freight and passenger, and that the outcome of all the recommendations contained within the report will have an affect across the whole industry.

The panel gave particular consideration, to recommendation 3, which calls upon the ORR to arrange a programme of work to analyse and compare existing mathematical models used to predict fatigue, including the Fatigue and Risk Index, and to provide information to the rail industry on the accuracy of these models.

As you will be aware the Fatigue and Risk Index has been used extensively by the rail industry to validate rosters / working time patterns for driving staff, as well as post incident, and therefore it is vitally important that the industry fully understands the accuracy of this model.

We currently review our base rosters, using this tool, to ensure that they do not introduce high levels of fatigue, and shall continue to do so, until such time as the output from recommendation 3 is made available, when we will of course review this output and take appropriate action.

It is common for different members of traincrew to prefer to start their shifts at different times throughout the 24h period, due to personal circumstances and the timing / nature of their personal hobbies / interests etc.

As a result of this, it is also not uncommon for different members of staff to identify differing shift patterns as those which they believe make them more fatigued.

It was therefore concluded, that the importance of establishing the output from recommendation 3 is crucial in order to allow us to validate both our current usage of the Fatigue and Risk Index, and the output from any reviews we may undertake with our drivers, if we are to reasonably assess and understand the outputs from such a review, and to improve upon any such identified shifts.

We would therefore request assistance from the ORR in respect of this matter, and would suggest that from a timing perspective, the output from recommendation 3 actually takes priority over that from recommendation 1. We would therefore request that a meeting be held between relevant representatives of the train / freight operators and the ORR in order to discuss this issue further.

In the meantime, we will of course continue to monitor the working hours of our driving staff, and take appropriate action whenever we believe that there is the potential for an increased level of risk from fatigue, as well as continuing to reinforce the message to our drivers in respect of the need for them to ensure that they are fully fit and prepared for duty

4. Following the above response ORR and DB Schenker met on 11 October 2011 and 7 March 2012.

5. DB Schenker expressed concern (22 Feb 2012 letter) to ORR that conducting a company-wide staff fatigue survey in isolation now, as suggested by ORR in a letter dated 21 December 2011, could further complicate the position on fatigue management in the company. They explained they would prefer to gather information on fatiguing shifts as part of their wider, comprehensive FRMS development work through the year, so that drivers engage in the exercise from a more informed basis, with staff and ASLEF support, and so that there is an agreed process for progressing the findings. DBS are re-emphasising the importance of reporting any fatigue concerns via usual line management channels and via their representative on the new fatigue risk working group (13 Apr 2012 letter). Drivers that ORR have spoken to commented that they readily reported any concerns to management and to union reps. DBS expect to have developed and implemented its FRMS later in 2012. The FRMS when implemented will address parts b and c of this recommendation.

6. DBS have now formed a bi-monthly Fatigue Risk Management Steering Group attended by the Senior Operations directors, Head of Risk Management, Head of Safety & Standards and the Safety & Compliance Manager (Construction) Tim Hirst, and a Fatigue Risk Working Group, including front-line representatives, with both groups feeding into the UK Board (Safety) Meetings (22 Feb & 28 Mar 2012 letters).

7. DBS will during 2012 develop and implement a Fatigue Risk Management System (FRMS). They will review existing fatigue controls and develop them into a documented FRMS; develop systems for monitoring trends for safety critical staff working patterns and produce a procedure for comparing patterns with incident data, for feeding into the FRMS; and review other organisations' FRMS to learn from best practice elsewhere (28 Mar 2012 letter)

8. DBS safety staff are working with their IT department on the production of automated reports based on actual hours worked, to facilitate monitoring of nine likely fatigue precursors in working pattern features (22 Feb 2012 letter). This will be overlaid on incident data to identify any correlations

9. DBS have agreed with ASLEF Company Council that fatigue management will be a standing agenda item at their 2012 meetings (22 Feb 2011 letter), supporting the collaborative approach to fatigue and cultural improvements. DBS took a positive approach to releasing ASLEF representatives for the joint ORR/ASLEF fatigue training events in Nov/Dec 2011, in contrast to some other invited freight operators

10. DBS will continue to assess driving staff base rosters using FRI, to monitor driver working hours and to reinforce the message to drivers for them to be fully fit and prepared for duty (26 Oct letter). However, they recognise (22 Feb 2012 letter)

that FRI is just one source of information to be considered during their assessments of likely fatigue

ORR decision

11. ORR in reviewing the response from DB Schenker has concluded that in accordance with the Railway (Accident Investigation and Reporting) Regulations 2005, it has:

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

Status*: In progress, ORR will update RAIB by January 2013*

Recommendation 2

The intention of this recommendation is for the rail industry to provide guidance on how to reduce the number of shifts that cause fatigue.

The Office of Rail Regulation should take into account the train operator findings from Recommendation 1d and provide updated and enhanced guidance on shifts that cause high levels of fatigue, which should include:

a. ways to improve those shifts, for example by changing the transition to them, the number of consecutive shifts, their duration and the duties carried out on them;

b. advice on the limitations of mathematical models used to predict fatigue, and how they may be used as part of a fatigue risk management system

Actions taken or being taken to address the recommendation

12. ORR published its revised guidance ' Managing Rail Staff Fatigue' in January 2012. This revised guidance implements the recommendation. If as a result of DB Schenker's work implementing recommendation 1 we become aware of any findings that warrant further revision to this guidance, this will be done.

Status*: Implemented*

Recommendation 3

The intention of this recommendation is to provide the rail industry with information on the accuracy of mathematical models used to predict fatigue.

The Office of Rail Regulation should arrange for a programme of work to analyse and compare existing mathematical models used to predict fatigue, including the Fatigue and Risk Index, and then provide information to the rail industry on the accuracy of those models.

Actions taken or being taken to address the recommendation

13. Discussions have taken place between ORR and RSSB regarding this recommendation, ORR has now submitted a research proposal to RSSB entitled 'A comparison of the ability of available mathematical models and tools to predict rail staff fatigue'. The outcome of the research would be a report comparing how well the leading fatigue tools, including FRI, predict fatigue in staff working a range of representative rail working patterns, including in particular working patterns in the freight train driving role. It would include assessments of how well each of the selected tools predicts:

- subjective fatigue, as measured by a fatigue rating scale, and
- more objective measures of fatigue or its effects on performance and safety, measurement method(s) to be determined.

14. The next step will be an idea development meeting, RSSB have informed ORR that this is likely to take place after September 2012.

ORR Decision

15. ORR in reviewing the response from DB Schenker has concluded that in accordance with the Railway (Accident Investigation and Reporting) Regulations 2005, it has:

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

Status*: In progress, ORR will update RAIB by January 2013*

<u>Recommendation 4</u>

The intention of this recommendation is to improve rail industry information on fatigue-related accidents and incidents.

RSSB should implement measures to improve the quality and quantity of available data relating to fatigue-related railway accidents and incidents. Options for consideration should include an enhancement of the Safety Management Information System to provide more accurate reporting of fatigue-related events.

Actions taken or being taken to address the recommendation

16. In its response dated 3 November 2011 the RSSB explained

Fatigue as a causal factor can already be recorded in SMIS, but the fields covering it are not mandatory for any SMIS events. The only time the fatigue fields tend to be used is for SPADs, but even this can lead to data not being recorded or being inconsistent as the requirement is not mandatory. Hence the data quality issues identified in the RAIB report.

Fatigue is not a straightforward causal factor to attribute to an event unless a detailed accident/incident investigation has been carried out and reported; it is not therefore something that can be easily mandated within SMIS.

Network Rail has developed its '10 incident factor' approach to human factors classification, which will include the recording of whether fatigue was a factor in an incident under one of the incident factors. The company's investigators will be trained to record these factors within their investigations but they will of course not be human factors experts.

In addition to this work, RSSB has been looking to provide further information for its members on the causes of accidents and incidents through proposals for Incident and Human Factors causal classification.

RSSB and Network Rail have more recently been working together to combine these proposals into a single cohesive causal classification module for inclusion within SMIS. The module has been specified and is currently being costed. The module is due to be implemented in SMIS in 2012. The module will contain a range of causal classifications, including the Network Rail '10 incident factors', and therefore will include fatigue. It is intended that causal classifications for all RAIB reports and Formal Investigations will be recorded in the new SMIS module with RSSB completing the classification process for the RAIB and non-Network Rail Formal investigations. It may, in future, be possible to include causal classifications for some local investigations.

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This proposal should result in fatigue being recorded as a causal factor within SMIS for more of the serious accidents and incidents that are subject to Formal or RAIB investigations than is currently the case, such that the intent of the RAIB recommendation will be met.

ORR decision

17. ORR in reviewing the response from RSSB has concluded that in accordance with the Railway (Accident Investigation and Reporting) Regulations 2005, it has:

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

Status: ***In progress, ORR will update RAIB by January 2013***