

Andrew Eyles
RAIB Relationship and Recommendation Handling
Manager

Telephone 020 7282 2026

E-mail andrew.eyles@orr.gsi.gov.uk

11 August 2015



Mr Andrew Hall
Deputy Chief Inspector of Rail Accidents
Cullen House
Berkshire Copse Rd
Aldershot
Hampshire GU11 2HP

Dear Andrew,

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

I write to provide an update¹ on the action taken in respect of recommendations 1, 3 and 4 addressed to ORR in the above report, published on 15 August 2011.

The annex to this letter provides details of the action taken. The status of recommendations 1 and 4 is '**Implemented**'. We do not propose to take any further action in respect of these recommendations unless we become aware that any of the information provided becomes inaccurate, in which case I will write to you again.

The status of recommendation 3 is '**Implementation ongoing**'. ORR will advise RAIB when further information is available regarding actions being taken to address these recommendations.

We will publish this response on the ORR website on 17 August 2015.

Yours sincerely,

Andrew Eyles

¹ In accordance with Regulation 12(2)(b) of the Railways (Accident Investigation and Reporting) Regulations 2005

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

Brief summary of what was reported to RAIB on 5 December 2013

1. DB Schenker (DBS) was continuing to progress this recommendation by its on-going development of a comprehensive Fatigue Risk Management System (FRMS).
2. DBS had prepared a draft Company Fatigue Guidance Document. This was due to be reviewed by the Steering Group in January 2014, once a new company structure was in place.
3. The Fatigue Working Group has updated the Company Fatigue Reporting Form which was in use and available for all staff to complete.
4. In addition DBS was looking at a new rostering systems and potential replacements for 'Crewplan', and one of the areas being addressed was the desire for improved ability to incorporate fatigue management into these packages.

Update

5. In July 2014, DBS informed ORR that it was continuing to progress the implementation of its Fatigue Risk Management System (FRMS), including the formation of a Fatigue Sub Group and have improved its rostering good practice guidelines which will better align with ORR's guidance.
6. DBS provided a further update on 30 April 2015 as follows:
 - *The organisation now has two working groups to address the issues around fatigue risk management. There is the original national group formed from Managers and members of all our Trade Unions and there is now a separate ASLEF fatigue working group, which is looking at rostering principles.*

- *DBS reviewed its SMS in 2014 and recently changed its Working Hour's section to a Fatigue Risk Management section and included more information on the how we manage fatigue.*
- *DBS has reviewed the CEO H&S policy statement and taken the decision during its recent annual review to document a separate Fatigue Policy Statement. The final draft was to be reviewed at the Strategic Safety Group in April.*
- *DBS has outlined its Fatigue Standard, which pulls together the elements of fatigue management in the organisation. This was to be reviewed by the Fatigue Working Group during April and then taken to the Standards Review Group in May. This document is a sign posting standard to systems and process which mitigate the risk of fatigue in our business. It's a very live document, as work continues each month to make our control measures tighter.*
- *DBS has created a Fatigue information page in our company infonet, with links to industry documentation. This page includes the fatigue reporting form and process. All DBS staff have access to the company infonet.*
- *During 2015 all DBS Traincrew will receive a 'tablet' and work has been undertaken with the DBS Projects Team to look at what educational fatigue information is uploaded to driver tablets (e.g. Clockwork or similar)*
- *All DBS traincrew depots except 2 have a maximum 6 day working, agreed with the Trade Unions and incorporated into their links. Wembley has just agreed to 6 day maximum working and work is now underway to changes the links to reflect this. DBS is working with ASLEF on the final depot. In addition the DBS ASLEF National Organiser recently attended the DBSR Fatigue Working Group and offered his support to address any local concerns with ASLEF members regarding fatigue friendly link changes.*
- *Work is now underway to reduce the 6 day maximum working to 5 days. This has already been agreed at Bescot, Worksop, Toton, Eastleigh and Warrington and the links have been changed to maximum 5 day working. Knottingley and Peterborough depots are the current traincrew depots that are work in progress.*
- *Worksite turns are now a max of 11 hours from 11.5 hours.*
- *The 4 hour shift swing has been reduced to 3 hours, as part of the new terms and conditions with our Traincrew.*
- *All 11 hour+ turns have been identified with book on times between 0001 and 0600. Wherever possible work will be undertaken to control*

fatigue risk from these links. When this is completed, then attention will focus on all 10.5hr+ turns with book on times between 0001 and 0600.

- *The Fatigue Index tool has been built into the linking tool, to continuously review and improve base rosters.*
- *A review of the maximum hours to be linked each week is underway. The current traincrew deal gives the business the ability of roster up to 60 hours a week. This is topic of discussion at the separate ASLEF Fatigue Working Group.*
- *Three depots, Knottingley, Toton and Acton have had all instances of booking on time roll back identified and there is an exercise to eliminate, where practicable, roll back book on times between 0001 and 0600. This will be reviewed for other depots when this is completed. Further work is required to understand the impact of small backward movements, where the driver would still ultimately prepare himself for work at the same time.*
- *DBS has fitted a system called Telematics to all company vehicles used by front line staff i.e. the 'White Fleet'. This system highlights predetermined parameters and highlights areas such as hard braking and cornering, which can be linked to fatigued road driving.*
- *DBS' new IT roll out plan includes the replacement of RPS and Crewplan and plans are progressing to move forward and begin testing by the end of the year. The system replacing Crewplan is called ARP (Advanced Resource Planning). In relation to the fatigue management requirements we have specified for the new system, there will be basic rules in the diagramming and rostering elements of the system regarding how many hours rest an employee should have before taking duty. At this moment in time phase one of ARP does not have the fatigue index calculator built into the system, however in further phases we will have the opportunity to build in fatigue management tools. The system is built as a European Platform for DB, therefore we have the scope to build and develop it internally.*

ORR Decision

7. After reviewing all the information received ORR concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, DB Schenker has:

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

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.

Brief summary of what was reported to RAIB on 5 December 2013

8. Based on Research proposal T1030, with Operations Focus Group's (OFG) support, RSSB produced a draft T1030 Research Specification. RSSB had copied the Research Specification to DBS so that DBS and RSSB could liaise directly on what assistance and data DBS can provide for the work.

Update

9. On 12 May 2014, ORR met with RSSB to discuss progress with ORR's T1030 research proposal, after RSSB had concluded that none of the bids received met RSSB's criteria to proceed with the work.

10. It was agreed that ORR would submit an amended proposal for a narrower piece of work. ORR and RAIB human factors staff discussed the change which was agreed as a reasonable way forward. ORR submitted an amended research proposal T1083 to RSSB, on 22nd August 2014. This proposal was processed through RSSB's research commissioning process.

11. ORR is an active member of the T1083 project steering group, as are DB Schenker. The proposal appears to have strong employer and trade union support across the board. ORR's research proposal T1083 was endorsed by the industry Train Operations Risk Group (TORG) on 13 April 2015. RSSB prepared and issued a project specification, with assistance from ORR, and in early June 2015 bids from four contractors were received. The Steering Group met to assess these week ending 26 June 2015, again with ORR's input, with the final selection decision expected on 30 June 2015. The work will involve adapting recent Australian Civil Aviation Authority (CASA) guidance on bio-mathematical fatigue models and updating it, so that it is more useful for a GB rail industry audience. In addition the work will also involve a basic sensitivity analysis to help identify the relative merits of the various available models. It is currently anticipated that the work will be completed and the resulting rail industry guidance document on bio-mathematical fatigue models published August 2016.

12. Once the T1083 guidance has been published a reference to it will be added to ORR's own guidance to the industry on fatigue.

ORR Decision

13. After reviewing all the information received ORR concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, RSSB's work on T1083 means that ORR has:

- taken the recommendation into consideration and
- is taking action to implement it by August 2016.

Status: *Implementation on-going.* ORR will advise RAIB when further information is available regarding actions being taken to address this recommendation.

Recommendation 4

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.

Brief summary of what was reported to RAIB on 5 December 2013

14. The RSSB project to implement the Incident Factor Classification System (ICFS) was on-going, including populating the system with relevant data and RSSB was keeping RAIB and ORR informed of progress. Industry search/output requirements for the system were expected to be developed by early 2014. It was noted that RAIB were actively working with RSSB to ensure links between its own Corporate Memory Tool and the ICFS.

Update

15. On 19 February 2015, RSSB provided the following information as its closure statement for this recommendation:

In response to this recommendation, the Safety Management Information System has been enhanced to include the Incident Factor Classification System (IFCS), which includes the more detailed consideration of issues relating to fatigue in addition to many other human factors issues that need to be analysed. In terms of fatigue specifically, RSSB will now publish a Special Topic report on fatigue on the RSSB website, based on RSSB's initial analysis of the data in the IFCS.

This report has been reviewed by both the ORR and RAIB during its development. The report demonstrates the use of the IFCS data in assessing the frequency with which fatigue is identified in as a causal factor in formal and RAIB investigations. This analysis is part of an on-going work-

stream of recording and analysing data in IFCS and other fatigue-related data sources.

16. On 5 March 2015 ORR received RSSB's Feb 2015 Fatigue Special Topic report.



ORR Decision

17. The final version of RSSB's Fatigue Special Topic Report reflects comments made by both ORR and RAIB and gives ORR confidence that RSSB has progressed recommendation 4 to a suitable conclusion. The report also makes a number of recommendations to be taken forward by RSSB and the wider industry aimed at further improving the industry's understanding and management of fatigue:

1. *Continue to review incidents using the IFCS approach to identify fatigue and associated underlying causes. The continual development of a wider sample of incidents which will be updated on a regular basis will support the management of both fatigue and other incident underlying causes*
2. *Review the IFCS database sub-categories to allow incidents to be better categorised for fatigue.*
3. *In the short term to encourage the completion of non-mandatory fields in SMIS, so when necessary, analysis can be made with as complete a data-set as possible. This includes fields related to factors such as roster pattern, sleep duration, and commute time.*
 - 3a, *Long-term action to make these fields mandatory by agreement with the industry - Action: RSSB's System Safety Team to develop proposals for consultation as part of the next update of RGS GE/RT8047.*
4. *Industry to improve the quality of fatigue assessment and reporting in incident investigations. This can be improved by the provision of better guidance on how to investigate fatigue within wider proposals related to human factors and investigations. - This action has been agreed with DRSG*

18. After reviewing all the information received ORR 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 implement it.

Status: Implemented.