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28 September 2017



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

Dear Andrew,

**RAIB Report: Two signal passed at danger incidents, at Reading Westbury Line Junction and Ruscombe Junction, 28 March 2015 & 3 November 2015**

I write to report<sup>1</sup> on the consideration given and action taken in respect of the three recommendations addressed to ORR in the above report, published on 29 September 2016.

The annex to this letter provides details in respect of each recommendation. The status of all three recommendations is '**progressing**'.

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 28 September 2017.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'O. Stewart', written over a light blue horizontal line.

Oliver Stewart

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

## Initial consideration by ORR

1. All 3 recommendations were addressed to ORR when the report was published on 29 September 2016.
2. After considering the recommendations ORR passed recommendations 1 and 3 to DB Cargo Ltd; and recommendation 2 to all FOCs operating in the UK, asking them to consider and where appropriate act upon them and advise ORR of their conclusions. ORR addressed recommendation 2 to DB Cargo, Freightliner, GB Railfreight, Colas and Devon & Cornwall railways.

## Recommendation 1

*The intent of this recommendation is to reduce the risk of fatigue arising from the rosters and diagrams worked at Westbury depot.*

DB Cargo (UK) Ltd should review the driver diagrams and rosters at Westbury depot to identify those at highest risk of fatigue and amend the timing, duration and/or operation of these trains in order to reduce the fatigue risk. The review should consider the findings from this investigation, industry good practice, staffing levels and feedback from the company's drivers (paragraph 102b).

## ORR decision

3. DB Cargo have confirmed they have carried out a review of the driver diagrams and rosters at Westbury depot. However it is not clear from their response the diagrams and rosters that were covered in the review, which of them were changed following the review and those which were not, and why.
4. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, DB Cargo has:
  - taken the recommendation into consideration; and
  - is taking action to implement it, but ORR has yet to be provided with a timebound plan.

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

## Information in support of ORR decision

5. On 10 August 2017 DB Cargo provided the following initial response:
 

*DBC in consultations with Trade Union Safety Representatives; have undertaken a review of the new proposed links at Westbury which has included all the relevant industry fatigue guidance. Paul Miles and Anthony Wells were the ASLEF H&S representatives involved as part of this review. The ORR guidance document attached included notes next to the fatigue factors and summary of notes (on sticky notes). This exercise was completed with ASLEF's*

*H&S Chair and Secretary (Paul Miles and Tony Wells). Also attached is a document showing progress within BRP.*



ORR

Good-Practice-guide



Business Resource

Planning (BRP) – Fat

## Recommendation 2

*The intent of this recommendation is to improve the management of fatigue amongst freight operating companies, in accordance with contemporary research and good practice.*

Freight operating companies should expedite a review of their fatigue risk management systems to ensure that they have sufficient controls (eg policies, company standards) in place which are consistent with published good practice (such as that from ORR and RSSB), including:

- rostering rules and associated staffing levels (such as limits on working hours, overtime and consecutive shifts), especially for night shifts;
- appropriate use of biomathematical fatigue models (such as the FRI);
- training and education on fatigue for safety-critical workers and controllers of safety-critical work;
- fitness for duty checks when booking-on for duty;
- processes for gathering and using feedback, in an open and timely manner, from safety-critical workers on fatigue-inducing shift patterns;
- in consultation with their occupational health advisers, screening and treatment for sleep disorders as part of medical assessments, both routinely and particularly where a worker has been involved in a suspected fatigue-related incident, and requirements on individuals to declare any known sleep disorders to their employer.

## ORR decision

6. All of the FOCs that ORR contacted have reported on the procedures they have in place for identifying and managing fatigue. ORR has written to all TOCs and FOCs with guidance and advice on fatigue controls. ORR is starting to look at FOC fatigue controls in more detail and will be reviewing their arrangements as part of planned work. We want to see evidence that FOCs are managing fatigue rather than working hours.

7. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, DB Cargo, Freightliner, GB Railfreight, Colas and Devon & Cornwall railways have:

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with a timebound plan.

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

### Information in support of ORR decision

8. On 26 January 2017 Colas Rail provided the following initial response:

*Thank you for your letter regarding the Rail Accident Investigation Branch (RAIB) report concerning the SPADs as laid out in the report including the report recommendations published on September 2016. To address the report recommendation 2, and to provide the assurance that Colas Rail takes the risk of SPADs seriously, I have detailed below a limited number of Train Operations Manual procedures used within Colas Rail Services from our suite of train operating procedures and risk assessments for train drivers.*

*This response has been written with the co-operation of the Freight Department.*

*Colas Rail Services holds ROGS certification as an operator of on track machines and freight locomotives.*

*The amount of time spent on training and assessing new drivers to enable them to achieve competence in train driving and train handling is contained within procedure T02-203 "Driver Basic Training and Competence Assessment" this procedure includes responding to out of course situations in a timely manner.*

*Procedure T02-208 "Professional Driving Handbook" details the role of a professional train driver.*

*Procedure T02-501 "Managing Signals Passed at Danger".*

*Procedure T02-504 "OTM/Train SPAD and Operational Risk Reduction Plan".*

*Procedure T02-9011 "Recommendations arising from SPAD investigations".*

*Colas Rail Service personnel attend rail industry groups including RFOG and M&EE where industry Codes of Practice are produced and the relevant information in the CoPs being added to existing Rail Services procedures.*

*All SPADs that occur are investigated with a written report produced for each incident which is checked by the Professional Head of Rail Operations.*

*The company regularly provides SPAD avoidance information to drivers by way of Safety Alert notices, team briefings, notice boards, seasonal railhead condition information and company safety briefs by way of examples.*

*The Colas Rail Freight Planning Manager is responsible for the rostering and deployment of safety critical staff for the operation of our freight services. The*

company is actively recruiting to strengthen this section with a view to more efficient rostering practices.

The Freight Planning Manager ensures that staff are rostered using the following principles:

- 14 hour door to door
- A maximum of 13 consecutive shifts
- No more than 72 hours rostered in any 7 day rolling period
- A maximum of 12 hour Safety Critical Work per shift

Staff concerns have been noted by the Freight Management team and these have resulted in changes to two flows which staff highlighted as particularly fatiguing. These are:

*Grangemouth to Dalston flow where the introduction of a “middle shift” significantly reduced the potential for fatigue.*

*Hoo Junction to Eastleigh SCO Network Service where the number of consecutive turns is limited to three and a PNB driver is rostered at Eastleigh to ensure the driver has adequate rest prior to working the return service.*

The Performance and Policy Manager also monitors Colas Rail staff exceedances. The exceedances are categorised by train service and causation by the Colas Rail Fatigue team and any trends are discussed at the Freight Operations Team Meeting which is held every other month.

Colas Rail has appointed a Senior Manager to project manage into the business a rostering programme that incorporates a Fatigue Risk Index calculator.

Of the five SPADs experienced by Colas Rail Freight in 2016, none were categorised as high risk and fatigue was found not to have played a part in any of the incidents

9. On 10 August 2017 DB Cargo provided the following initial response:

*Recommendation 2 is broken down into several actions:*

*Rostering rules have been developed in consultation with ASLEF as per the attached ORR guidance along with notes and a draft standard. The FRI tool has been incorporated into our Business Resource Planning (BRP) System and period reports were agreed. These were also covered on the summary noted i.e. Fatigue KPI's to track.*

*Training and education will be covered by Clockwork. Arrangements are in place for them to undertake a gap analysis of the new controls October time and to make recommendations for training using tablets i.e. e-learning. This is also linked to the RSSB project work, which would aid further education i.e. phase 3 of the project. Please note that this will not take place until BRP is fully embedded in order that a meaningful comparative can be drawn.*

*Fatigue reporting needs constant promotion through the annual communications plan. The final phase of this is when we all move to the close call system and we can close call fatigued related issues.*

*When requesting medicals sleep apnoea is assessed. Please see response from our medical provider;*

*“Yes, I can confirm this definitely forms part of the periodic assessment; questions are asked of all employees as to whether they have any substantive sleep disorders including sleep apnoea or narcolepsy. The need for further clinical enquiries! tests etc. will depend on the individual employee’s response.”*

*‘Further to my response above, I should also add, in addition to being questioned about diagnosed sleep disorders, all employees are also asked whether they have disturbed sleep from snoring or have any daytime drowsiness. Affirmative answers could potentially indicate undiagnosed sleep disorders and as previously mentioned may warrant deeper investigation depending on the responses given.*

10. On 20 January 2017 Devon and Cornwall Railways Ltd provided the following initial response:

*DC Rail has assimilated the report and has been engaged actively along with other Freight Companies through RFOG and NFSG in pursuing the need to have up to date research on incident patterns and recent advances in analysis. Furthermore DC Rail intend to revisit all previous industry guidance to ensure our procedures match if not better all published good practice in the matter of rostering with particular emphasis on fatigue and well being of our staff.*

*In specific regard to Recommendation 2 the Head of Operations has initiated a review of all our rostering rules and guidelines and we have also re-written our procedure for fitness for duty checks to ensure they are up to date. It is expected that the revised procedures will be adopted into our core documentation at our SSRG meeting on the 8th February and briefed out immediately to Controllers and Operational Staff. It is also of note that we have recently embarked on a major recruitment exercise to improve the numbers of staff we have both of the driver and shunter grades to ameliorate any rostering situations and better manage potential re-deployments sought by staff and management during improving business outlook.*

*Whilst we are unaware of any current staff suffering from sleep related disorders (and have canvassed all staff when on initial interview for employment) we will brief out to all safety critical staff the need to keep the company informed of any matters relating to their health and well being that do occur during the period of their employment with DC Rail. The majority of our staff are on frequent medical examinations and we will always work with occupational health advisors to address any emerging situations.*

*DC Rail has obtained information through our TOSG contacts about education for staff on fatigue and well being and will be distributing written material to staff along with contacts they may use to gain further information.*

*DC Rail does not have any situation where long breaks of duty or “napping” is appropriate so in terms of appropriateness of facilities it does not currently apply in this company.*

11. On 12 January 2017 Direct Rail Services Ltd provided the following initial response:

Rostering rules and associated staffing levels (such as limits on working hours, overtime and consecutive shifts), especially for night shifts;

- Current Traincrew Terms & Conditions govern the method and rules surrounding rostering, diagramming and determining staffing levels this includes time away from work prior to next turn of duty etc.

Appropriate use of bio-mathematical fatigue models (such as the FRI);

- DRS will be introducing during 2017 company fatigue working group, the group will look at fatigue risk across all DRS activities and part of their remit they will review the suitability of the current fatigue modelling tool.

Training and education on fatigue for safety-critical workers and controllers of safety-critical work;

- The Company will run an educational programme covering fatigue throughout 2017, this will also look at individual’s responsibilities to fatigue and being fit and suitably rested for safety critical work

Fitness for duty checks when booking-on for duty;

- Out of hours fitness checks form part of DRS operations safety audit programme, opportunity should be taken to expand such checks to enhance staff fatigue topics

Processes for gathering and using feedback, in an open and timely manner, from safety-critical workers on fatigue-inducing shift patterns;

- DRS will engage with the Trade Unions during liaison meetings to discuss feedback from safety critical workers on fatigue issues/topics

In consultation with their occupational health advisers, screening and treatment for sleep disorders as part of medical assessments, both routinely and particularly where a worker has been involved in a suspected fatigue-related incident, and requirements on individuals to declare any known sleep disorders to their employer.

- DRS will look to enhance wellbeing campaigns, specifically on fatigue and associated mitigation initiatives

12. On 26 January 2017 Freightliner provided the following initial response:

*Freightliner will be holding a review on its Fatigue Risk Management procedure and we are also considering a new rostering tool which will automatically flag up any non-conformances to our Fatigue Risk management procedure. This will also include a fatigue risk calculator and will rule out any human errors. We hope to approve the system around April this year with an aim of having in place and operational by the end of this calendar year.*

*Training on fatigue and its affects has been delivered during safety briefs and all roster teams have also been briefed.*

*As a matter of course will refer drivers to our Occupational Health provider when the cause of a SPAD cannot be allocated to S&T or T&RS issues.*

13. On 19 December 2016 GB Railfreight provided the following initial response:

*GB Railfreight regularly reviews all research into fatigue with a view to improve its own systems. GB Railfreight is disappointed that the two recent pieces of research conducted by the RSSB about fatigue and fatigue models failed to produce any clear recommendations to take forward.*

*GB Railfreight uses the fatigue Risk Model applied across all its diagrams and rosters using the build in feature of the Crewplan rostering system supplied by ATOS, and has developed its own forecasting tool to predict fatigue up to 14 days in advance. This is updated at 4 hour intervals as changes are made in real time to workings by control. Use of this tool has reduce FRI scores of 45 by 75% and the only known remaining scores over 45 are known causes (i.e. IEP Testing on nights where there are two drivers and test engineers all working together, the issue being the small pool of drivers trained on this traction).*

*Over the next year, GB Railfreight will be replacing Crewplan as its rostering system by the new version from 3-Squared's Railsmart range which will feature this forecasting built in and also link into the signing on and off systems to ensure any changes are immediately picked up and acted in.*

*In addition, GB Railfreight has a monthly meeting of senior managers and employee representatives, the Fatigue Focus Group, to review all fatigue related issues and consider options for future improvements.*

*The GB Railfreight HR team works closely with nominated and ORR approved medical practitioners to ensure sleep related disorders are picked up and addressed.*

*GB Railfreight therefore believe we are already compliant with the spirit of this recommendation.*



### Recommendation 3

*The intent of this recommendation is to improve the industry's understanding of fatigue risk through deeper analysis of available data sources, providing more intelligence on fatigue risk precursors which could feed into fatigue risk management systems (although this should not be a reason to delay the implementation of recommendation 2) and be of benefit to the wider industry.*

DB Cargo (UK) Ltd, in cooperation with other freight operating companies, should submit a research proposal to RSSB with the aim of conducting more detailed analysis on incident patterns using normalised data (eg long shifts, consecutive shifts), revisiting previous research in this area and building on recent advances in SPAD data analysis.

### ORR decision

14. It is not clear from the DB Cargo response if a research proposal has been formally submitted to RSSB, or if alternative means were being taken to address the recommendation. ORR has written to DB Cargo asking for confirmation of what has been done and what is planned to address the recommendation.

15. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, DB Cargo has:

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with a timebound plan.

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

### Information in support of ORR decision

16. On 10 August 2017 DB Cargo provided the following initial response:

*Recommendation 3 is broken down into several actions:*

*Rostering rules have been developed with ASLEF as per the attached ORR guidance with notes.*

*BRP has already a number of controls built in (see attached) plus a number that have been requested and implemented following a meeting between the Safety Representatives and Management. These are highlighted in yellow. The remainder are in the process of being implemented. The Fatigue Working Group is to reconvene on 31<sup>st</sup> August preceded by a meeting of a small group of Safety Representatives and members of the resource team to establish parameters within BRP post its full introduction. DBC attends various working groups at RSSB including National Freight*

*Safety Group (NFSG) and Rail Delivery Group (RDG) of which subworking groups are looking at fatigue issues. Any key internal findings and related information will be fed back into these groups.*