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OFFICE OF RAIL REGULATION

10 August 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

Collision at Exeter St Davids station

I wrote to you on 9 June 2011 and provided details of the consideration given and actions taken in relation to the recommendation in the above report by train operating companies.

The annex to this letter contains details of the actions taken by the train operating companies where we had previously reported that actions were 'in progress' and where we can now report that all train operating companies have implemented the recommendation.

ORR does not intend to take any further action in relation to this recommendation unless we become aware of an inaccuracy in what we have reported, in which case we will write to again.

Yours Sincerely

Chris O'Doherty

Update

1. On 9 June 2011 we wrote to you confirming that the following train operating companies had implemented recommendation 1:

2. East Midlands Trains Ltd; First ScotRail Ltd; North Yorkshire Moors Railway Enterprise Ltd; West Coast Trains Ltd; Grand Central Rail Ltd; DB Schenker Rail Ltd; Direct Rail Services Ltd; First Capital Connect; First Great Western; First Keolis Holdings(Transpennine Express).Heathrow Express, London and Birmingham Railway Ltd (London Midland); London Overground Operations Ltd; MerseyRail Electrics; Northern Rail Ltd; Stagecoach South Western Trains Ltd; London and Southeastern Railway Ltd.

3. We also reported the following train operating companies as 'in progress'

c2c Rail Ltd; Chiltern Railways Co Ltd; Cross Country Trains Ltd; East Coast Mainline Ltd; Hull Trains Co Ltd; Freightliner Ltd; National Express East Anglia; Southern Railway Ltd; Colas Rail Ltd.

Details of further consideration and actions taken are detailed below:

Recommendation 1

The purpose of this recommendation is to alert train drivers to the possibility of low adhesion conditions in the vicinity of level crossings located in close proximity to other hazards.

Train operators should, for locations where hazards exist immediately beyond a level crossing such as high risk signals, bay platforms or stations with permissive working, highlight within their route risk assessments and route learning and briefing material the possibility of drivers encountering unexpected low adhesion conditions at that crossing and the risk arising from wheel slide

c2c Rail Limited

Previously reported

4. On 9 June 2011 we reported that we had considered the information provided by c2c and concluded that its response was too general on the adhesion risk and did not take into account the activities on level crossings that can produce adhesion risk.

Update

5. We wrote to c2c Rail Limited on 27 June 2011 requesting additional information. We received the response below on 28 June 2011;

The c2c Driver Route Information Guide (c2c SM20.11) identifies areas where low adhesion and the risk of wheel slide have been identified. The guide shows the start and end of all sections on each running line, where there is a risk of low adhesion or wheel slide. The Route Information Guide captures the risks identified from the route risk assessmernts and the route risk assessments are reviewed annually.

During the last review of the route risk assessments, no new locations were identified where hazards exist immediately beyond a level crossing such as high risk signals, bay platforms or stations with permissive working.

The c2c Driver Route Information Guide is briefed and issued to each driver and each driver's route knowledge is assessed by questions and observations as part of the competency management system.

ORR Decision

ORR has considered the information that c2c Ltd has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

Chiltern Railways

Previously reported

6. On 9 June 2011 we reported that we were requesting confirmation of when planned briefings would be completed.

Update

7. On 17 July 2011 Chiltern Railways confirmed that plans were in place to brief the relevant drivers as part of the leaf fall brief that was being prepared at that time. On 30 April 2012 Chiltern Railways provided further information as below

Chiltern has undertaken a review of its routes to identify any locations where such a risk could exist

Locational factors

We have no locations where we have a permissive platform or a bay platform, high risk signal or junction located immediately beyond a level crossing. The following locations have some relevance to the Exeter scenario in terms of level crossings providing a contaminant where braking could be occurring – but none have the exact scenario and risk;

Banbury Manor Farm – User worked gates located over a mile from the nearest permissive platform. The gradient is minimal (1 in 1077).

Bentley Heath Level Crossing – CCTV full barrier crossing with passenger loop. No permissive move from approach to LC through either platform 3, Dorridge goods

loop or the Up Dorridge passenger loop. Any train sliding through the passenger loop has a sand drag to arrest it.

Blakedown Level Crossing – No signal or permissive working beyond the level crossing. Uphill after the crossing at 1 in 165, helping to arrest any slide.

Cradley Heath – There is a potential risk with trains in the down direction of low adhesion for a train entering the platform. In the Up direction, the crossing is beyond the stop signal/platform. No permissive facility

Bicester London Road – The crossing is beyond the platform at which our trains terminate. However, it is theoretically possible that contaminant could be brought acrossfrom the crossing to the platform areaby a freight service in the opposite direction, giving risk to a train sliding onto the crossing. However the number of freight trains that could import contaminant is very low (roughly one per day) and there is no gradient of note.

As a general rule, the core Chiltern routes have relatively few level crossings compared to other routes - partly due to the later construction of some of the routes.

Other factors of note:

- *Rolling stock - All Chiltern's main fleets have some form of sanding equipment (unlike the 142 at Exeter). CRCL has previously identified sanding equipment as being a key mitigation to low rail head adhesion conditions;*
- *Much of the Chiltern train fleet has modern WSP systems (unlike the 142 at Exeter);*
- *With the exception of the class 121s used between Aylesbury and Princes Risborough, all of our trains have more than four axles which helps braking performance. Note the class 121s do however have tread brakes which have advantages when dealing with a contaminated railhead.*

Conclusion

The Chiltern Route Risk Assessment template is due to be reviewed, consideration shall be given to the low railhead adhesion element. However, the current analysis does not suggest that CRCL face significant risks from this source, although conventional low adhesion is an issue.

ORR decision

ORR has considered the information that Chiltern Railways has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

Cross Country Trains

Previously reported

8. On 9 June 2011 we reported that we were seeking clarification on the identification of locations as expressed in the recommendation rather than 'similar locations' to Exeter as stated in the response from Cross Country Trains.

Update

9. The update below was received on 14 July 2011:

Cross Country can confirm that this is documented in our Route Risk assessment document which is subject to periodic review (at least annually). A copy of the 2011 document is attached , this resides in our safety management system and is both audited and controlled.

You will see how the 1655 miles of geography we cover is broken down and you will see that each route is assessed by an accountable and experienced manager and is peer reviewed. Under section "D" you will see where we have identified areas where low adhesion, however that may be caused, may be an issue, and how we manage vigilance especially on approach to a station.

I hope that this reassures you that we have an approach to the matter and have appropriate awareness of the subject - mitigation is obviously a combination of awareness, professional driving style and competent traction.
We are preparing our low adhesion brief at this time and I will undertake to ensure that the matter is explained in this document.

ORR Decision

ORR has considered the information that Cross Country Trains has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

East Coast Mainline

Steps taken or being taken to address the recommendation

10. On 3 May 2011 East Coast Mainline confirmed the following actions had been taken:

East Coast's route risk assessment process has identified several areas where hazards exist immediately beyond level crossings. These are all stop signals located beyond a level crossing and the risks associated with these have been included in the Route Risk Briefs issued to drivers. These signals identified on the Core Routes are

D300 on the Up Main (Doncaster) beyond Moat Hills CCTV LC
D302 on the Up Leeds (Doncaster) beyond Dock Hills CCTV LC
M176 on the Up Main(Morpeth) beyond Chevington CCTV LC

Work continues on assessment of our diversionary routes, but I can confirm that the principles of the recommendation are now embedded within our Route Risk Assessment criteria.

ORR Decision

ORR has considered the response and the additional information that East Coast Mainline has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

Hull Trains

Previously reported

11. On 9 June 2011 we reported that we still required confirmation from Hull Trains that it has addressed high risk signals.

Update

12. We wrote to Hull Trains Ltd on 9 June 2011 requesting additional information. Hull Trains replied on 11 July 2011 with the information below.

*Locations where there is a Level Crossing just prior to a station **or signal** that could cause low rail adhesion during the late stage of the approach to stop. The following locations were identified as of being at risk and are now included in the appropriate route risk assessment:*

The approach to D300 signal at Doncaster. Moathills CCTV

The approach to D302 signal at Doncaster. Dockhills CCTV

These locations are well known to us for a number of years, they form part of the briefing when the driver learns the route, and they are included in our Leaf Fall briefing every year.

ORR Decision

ORR has considered the response and the additional information that Hull Trains Ltd has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

National Express East Anglia

Previously reported

13. On 9 June we reported that National Express East Anglia had not confirmed that it had updated its route specific assessments.

Update

14. We wrote to National Express East Anglia on 27 June 2011 requesting this confirmation. The response was received on 8 July 2011.

NXEA I can confirm that our Area Operations Managers have highlighted two areas which are relevant to the recommendation from the RAIB investigation into the incident at Exeter St David's station.

The two locations are:

Manningtree: Up road into the bay platform. The line speed on approach to this location is 25mph

Parkeston East: Down road into bay platform The line speed on approach to this location is 15mph

Drivers have been made aware of the risks associated with level crossing on the approach to these locations. It should also be noted that drivers are required to reduce the train speed on the approach to the platforms to further reduce the risk.

The relevant route risk assessments are being reviewed and monitoring will take place during competence assessments by Driver Managers and via the analysis of OTMR downloads. Drivers and Driver Managers report any issues identified regarding low adhesion and we will then pass this information on to Network Rail.

ORR Decision

ORR has considered the response and the additional information that National Express East Anglia has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

Southern Railway

Previously reported

15. On 9 June 2011 we reported that there was no evidence that Southern Railway had briefed its drivers.

Update

16. We wrote to Southern Railway on 22 July 2011 requesting further information. The response below was received on 11 August 2011:

An edition of Train Crew Matters contained an article during 2010, reiterating the dangers posed from this type of potential contamination around level crossings. This then being one mechanism that was used to highlight the issues.

The route packs highlight all high risk signals, permissively worked platforms and bay platforms, none of these potential risks have level crossings imediately within the vicinity of the approach.

The route risk assessments returns from May have not identified any additional risks and this topic will be covered again with the nominated route owners during the September Operations Risk Forum, to ensure it remains a focus and if needed the route packs will be amended

ORR Decision

ORR has considered the response and the additional information that Southern Railway has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

West Coast Railway Company

Initial response

17. On 9 June we reported that we were seeking clarification from West Coast Railways that it had highlighted high risk signals as well as risks at permissive platforms and lines and dead end bay lines,

Update

All West Coast drivers were fully briefed into the circumstances of the collision at Exeter, and the factors involved in contributing to its cause. The relevant clause is:

> *The RAIB has made one recommendation to train operators concerning highlighting within their route risk assessments, route learning and briefing material the possibility of drivers encountering unexpected low adhesion conditions at crossings, and the risk arising from wheel slide where hazards exist immediately beyond a level crossing.*

During the briefing process it was explained that the risks of poor adhesion were caused by possible contamination of the rail surface by water, salt, oil, rubber residue and other contaminants, and that Drivers must always be aware of the likelihood of encountering poor adhesion / wheel slide when braking in the vicinity of any Level Xing. The risks were highlighted in particular on permissive lines, where another train may be standing, also signals /stop boards in close proximity to Level Xings which may need to be stopped at, station platforms, severe reductions in line speed (PSR or TSR/ESR), or any other location where an increased risk may be encountered due to poor adhesion being experienced.

Route risk assessments will be revised as they are updated

ORR Decision

ORR has considered the response and the additional information that West Coast Railway has provided and concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, it:

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

ORR does not therefore propose 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*

Freight Operating companies

18. Initially ORR were reluctant to accept this recommendation for freight on the basis that freight train and locomotive braking characteristics were significantly different to the braking characteristics of the DMU involved in this incident, that freight trains were not routinely involved in permissive working and also because compliance with this recommendation would be hard to achieve as freight operates over the whole network. However after internal discussion we decided to direct the recommendation to all freight operating companies as well as train operating companies.

19. The initial responses from the freight operating companies were unsatisfactory – they simply referred us to their existing route risk assessment pr4ocedures which they said they would amend to take account of this recommendation for new routes. We explained that to implement the recommendation they would have to re-assess all their existing routes the freight operating companies The reasoning given by the freight operating companies is that the recommendation:

- *Is aimed at addressing the effects of low adhesion emanating from level crossing contamination rather than addressing the cause*
- *Fails to take cognisance of the specific risks such conditions present to each particular operator; and*
- *Fails to consider the scope of work national operators will encounter as a means of addressing the requirements of the recommendation.*

20. The freight operating companies argue that their routes are nationwide and they do not have the same risk profile or braking performance as 14x passenger trains who undertake permissive and station working. They are reluctant to risk assess the whole mainline for level crossing low adhesion risks on the basis of this one incident.

ORR decision

21. Having further considered the responses from freight operators ORR has concluded that freight operating companies have responded so far as is reasonably practicable, no further action is considered necessary.