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17 April 2015

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

Dear Carolyn,

RAIB Report: Near-miss at Llandoverly level crossing, Carmarthenshire, 6 June 2013

I write to report¹ on the consideration given and action taken in respect of the recommendations addressed to ORR in the above report, published on 15 May 2014.

The annex to this letter provides details of the consideration given/action taken in respect of each recommendation. The status of each recommendation is:

- Recommendations 1, 2, 4 and 6 have been 'Implemented'; and
- Recommendations 3 and 5 are 'Implementation on-going'.

Where recommendations are being reported as 'Implementation on-going' ORR will continue to monitor progress and will advise RAIB when actions being taken to address this recommendation have been completed.

We do not propose to take any further action in respect of recommendations that have been reported as implemented unless we become aware that any of the information provided becomes inaccurate, in which case we will write to you again².

We will publish this response on the ORR website on 30 April 2015.

Yours sincerely,

Russell J Keir

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

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

Initial consideration by ORR

1. All 6 recommendations were addressed to ORR when the report was published on 15 May 2014.
2. After considering the recommendations ORR passed:
 - Recommendations 1, 2, 4 and 6 to Arriva Trains Wales; and
 - Recommendations 3 and 5 to Network Rail,

asking them to consider and where appropriate act upon them and advise ORR of their conclusions. The consideration given to each recommendation is given below.

Recommendation 1

The intent of this recommendation is to reduce the risk created by having no formal method of work where train-crew have duties to perform, such as token exchange, level crossing operation and train dispatch at unstaffed stations.

Arriva Trains Wales should identify all locations where train-crew carry out operational activities such as token exchange and level crossing operation in addition to train dispatch, and develop risk assessed methods of work for each location. The methods of work should be briefed, and trained to all train crew, incorporated in the performance monitoring systems and be subject to periodic review.

Steps taken or being taken to address the recommendation

3. On 28 July 2014, Arriva Trains Wales provided the following information:

ATW has carried out task based risk assessment at all four Trainman Operated (TMO) crossings on the network. This includes Llandoverly, Llandrindod, Barmouth, and Porthmadog.

The risk assessment at Llandoverly identified the need for a stop car marker to be positioned to ensure trains stop at a suitable distance to view the STOP board and white light associated with the level crossing.

The Barmouth risk assessment identified a need for conductors to ensure they walk towards the front of the train before dispatching to ensure the white light is flashing. This is because the view of the white light is restricted by the canopy.

Following the risk assessments an instruction was issued to drivers and conductors instructing them to verbally confirm with each other that the crossing has been operated and the white flashing light obtained.

ATW plan to complete train crew route risk assessments by 31 August 2014. These will consider stopping positions and make recommendations for stop car makers where applicable.

4. On 26 September 2014, ORR wrote to Arriva Trains Wales requesting it provides more detail on the scope of its risk assessments. On 28 October 2014, Arriva Trains Wales provided further information stating:

Route risks have been reviewed for all routes operated by ATW in the South (with the exception of Aberdare – Abercynon and Cardiff Queen St – Rhymney which are

currently underway) and placed in the new linear / task based format devised following the Llandoverly incident.

Part of the review was to look at positioning of platform equipment and signage at all locations to see if it posed any specific risks, this has been done in conjunction with the Conductor managers.

The documents are currently awaiting verification by the relevant senior managers to ensure the risk assessment training delivered in February 2015 has been followed when carrying out the review.

5. ORR asked ATW to provide the latest status of the review of route risks and the verification process by relevant senior managers. On 25 March 2015, ATW provided the following response:

Through the revised Route Risk Assessments all locations that have token exchange and level crossing operation in addition to dispatch have been identified on all Arriva Trains Wales routes. A Method of Work at Llandoverly is highlighted in the Sectional Appendix (GW910) which is incorporated into the Route Risk Assessments, which are briefed and trained to all train crew before route signing takes places.

Driver Team Managers and Conductor Managers have undertaken unobtrusive monitoring of token exchange and level crossing locations to make sure the Method of Work is robust and there is a good level of compliance. In addition to this Driver Team Managers and Conductor Managers monitor the operational activities through formalised observational assessments, which is undertaken on a two yearly cycle.

It is planned that all Route Risk Assessments will be placed onto the newly purchased tracking system that will provide an enhanced facility to ensure these are reviewed on a two yearly cycle.

ORR decision

6. ORR has confirmed that ATW has completed the review of risk assessments and these have been verified by relevant senior managers. The methods of work are briefed, and trained to all train crew, incorporated in the performance monitoring systems, through ATW routine train crew briefing system.

7. ORR, having reviewed the responses from Arriva Trains Wales has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

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

Status: Implemented.

Recommendation 2

The intent of this recommendation is to improve the arrangements at stations in respect of the positioning of equipment and signage used by train crew.

Arriva Trains Wales should lead a review of the positioning of platform equipment and signage used by train-crew at unmanned stations and, where practicable, arrange with Network Rail for improvements to be made. This should include:

- a) identification of the optimum stopping position for trains to enable the best achievable view of signals, stop boards and indicators; and
- b) an assessment of the positioning of control equipment operated by train crew (such as level crossing controls).

Steps taken or being taken to address the recommendation

8. On 28 July 2014, Arriva Trails Wales provided the following information: *ATW is currently reviewing route risk assessments, including task based risk assessments for other station duties e.g. token exchange and level crossing control operation.*

The results of these risk assessments will be formulated into a briefing pack for the relevant drivers and conductors who sign the routes. The briefing packs will contain information and instructions relevant to the tasks involved.

ATW plan to complete train crew route risk assessments and briefing packs by 30 September 2014.

The briefing packs shall be located at booking on points and will be available to all operational train crew. Train-crew are assessed on all their routes during a competence cycle that ensures knowledge is continually developed and maintained

9. On 26 September 2014, ORR wrote to Arriva Trains Wales requesting a list of all locations where train crew carry out operational activities (such as token exchange and level crossing operation) and to advise if the route risk assessments take into account such activities. On 28 October 2014, Arriva Trails Wales provided a list of all locations where train crew carry out operational activities:

Token Exchange: *Ystrad Rhondda, Porth Treherbert, Llandudno Junction, Llanwrst Knighton, Llanwyrtyd, Llandrindod, Llandovery*

Level Crossing Operation: *Porthmadog, Harlech (Up stopping trains only), Barmouth, Llandovery*

10. The implementation of this recommendation is dependent on recommendation one.

11. ORR asked ATW to provide the latest status of the review of route risks and the verification process by relevant senior managers. On 25 March 2015, ATW provided the following response:

ATW has undertaken a review of the positioning of platform equipment and signage used by train crew. In particular work has been carried out at Llandovery where the stop car marker has been repositioned to ensure the white light can be clearly observed by the train crew. At all other locations the stopping position is in the correct place for operating the crossing controls and the train crew is able to observe the white light.

All other stop car markers; have been reviewed as part of the route risk assessments and where reposition of stop car markers or signage has been identified ATW has liaised with Network Rail to address any changes required.

ORR decision

12. The implementation of this recommendation was dependent on recommendation one. ORR has confirmed that ATW has completed the review of

risk assessments and these have been verified by relevant senior managers. The methods of work are briefed, and trained to all train crew, incorporated in the performance monitoring systems, through ATW routine train crew briefing system.

13. ORR, having reviewed the responses from Arriva Trains Wales has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

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

Status: Implemented.

Recommendation 3

The intent of this recommendation is for infrastructure upgrade and improvement projects to include explicit consideration of all reasonable opportunities to improve safety at those locations where work is taking place.

Network Rail should make improvements to its processes for the design of new and altered signalling, to require the active consideration of reasonable opportunities to make improvements (for example, the types of measures indicated in [Notice Board] NB 130 to the control of risk beyond the immediate scope of the proposed works, including identifying where operator errors, individual or collective, could lead to unsafe conditions.

Steps taken or being taken to address the recommendation

14. On 14 August 2014, Network Rail provided the following information:

Network Rail will update and improve the Signalling Design Handbook NR/L2/SIG/11201 to include requirements of NB130 on taking reasonable opportunities to make improvements to the control of risk beyond the immediate scope of the proposed works, including identifying where operator errors, individual or collective, could lead to unsafe conditions. The standard will be issued as part of the December 2014 issue of standards.

Timescale: 31 January 2015

15. On 26 September 2014, ORR wrote to Network Rail requesting an update. On 16 February 2015, Network Rail provided an update stating that:

Creation of a new standards module for the 'Signalling Design Handbook' (SDH) has been delayed due to resource constraints.

In the interim Signalling Asset Policy (section 10.3) states that 'reasonable opportunity will be taken to address safety issues' will be taken when assets are renewed or altered. This policy is supported by the 'Safe by Design' initiative and various guidance documentation exists in the form of NB123, NB130 and PAN040. All of these have been issued and should be worked to when specifying and implementing signalling work. These give various levels of guidance on what is considered as 'Taking Reasonable Opportunity' when specifying and implementing alterations or renewals to signalling systems.

The documents mentioned above will all be used as the basis of the proposed new module for the SDH. Current expected issue date for the new SDH module is 31 October 2015.

ORR decision

16. ORR, having reviewed the responses from Network Rail has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

- taken the recommendation into consideration; and
- is taking action to implement it with completion by 31 October 2015.

Status: Implementation on-going: *ORR will advise RAIB when actions to address this recommendation have been completed.*

Recommendation 4

The intent of this recommendation is for ATW to review and improve its operational risk management arrangements.

Arriva Trains Wales should conduct a review of its operational risk management arrangements in the light of the findings from this investigation, and make improvements in accordance with the findings of the review. The scope of the review should include:

- a. The process for assessing risk associated with station duties on all lines over which its train crews operate (e.g. the application of route risk assessments);
- b. A prioritised plan for the assessment of dispatch risk at unmanned platforms;
- c. A prioritised plan to formulate, brief and train dispatch plans to train crew;
- d. The effectiveness of its methods for checking compliance with its policies and procedures (e.g. the application of remote booking-on spot checks, out-of-hours checks, and remote monitoring of the use of safety-critical equipment (including the use of OTDR data));
- e. The guidance issued by ORR and RSSB about fatigue management, in particular sleep risk assessments when booking-on duty, and a culture of trust and openness in fatigue management; and
- f. The need for a revision of its training practices and materials for drivers, conductors and controllers to explain the rationale that underpins the rules and to emphasise the benefits of compliance (as well as describing the rules and the consequences of non-compliance).

Steps taken or being taken to address the recommendation

17. On 28 July 2014, Arriva Trains Wales provided the following information:

- a) *Route risk assessments are currently being re-written for all of the ATW routes. These will involve the conductor function and station function and shall assess the risks associated with station duties on all ATW routes.*
- b) *These requirements will be covered in item a).*

- c) *Briefing pack and question pack will be formulated from the route risk assessments. These will be briefed to all staff and questioned as part of their competency cycles.*
- d) *ATW has recently published A 'CP [Company Procedure] depot management and checks' which sets out the monitoring requirements for checking depots. This includes:*
- i. *At locations where there is a remote booking on system the Train-crew Managers will carry out weekly checks on Train-crew Staff on the basis of 40% of their turns of duty over a Thirteen Week period.*
 - ii. *Weekly depot checks shall be carried out and documented by train-crew managers*
 - iii. *Out of hours checks must be included within the depot checks.*
 - iv. *Managerial checks will be carried out by a person above the grade of Train-crew Manager every two months.*

Furthermore there are four On Train Data Recorders OTDR downloads carried out every two year cycle for each driver within ATW, and monthly speed checks are carried out across the network using a Radar gun.

e) *ATW published a 'Coping with Shift work and Fatigue' guidance in March 2014 a guide that was issued to all safety critical employees. ATW has set up a fatigue management working group that will consider all factors which may contribute to fatigue. This is chaired by the Operations and Safety Director that involves representatives from each safety critical function.*

f) *In 2012, ATW undertook a pilot driver training programme formulated from a Risk Based Training Needs Analysis (RBTNA). This new form of 'task based training' sought to map in 'knowledge requirements' for each task that was trained which attempted to explain the reasoning behind how and why tasks were carried out, and the risks of not carrying out the tasks properly. This training course has been used for subsequent driver training courses and the Competence Management System (CMS) is based on the same concept. The conductor training and dispatcher training courses are built using RBTNA.*

18. *On 26 September 2014, ORR wrote to Arriva Trains Wales requesting evidence that a review had been carried out and to provide dates of the competency cycles. On 28 October 2014, Arriva Trains Wales provided further information stating: There were four Risk Assessments completed for each of the Trainman Operated (TMO) Crossings that are interfaced by Train Crew on the ATW. ATW undertook an unobtrusive observation at Llandoverly during August 2013 and noted the actions of the train crew with regards to using Local Control Unit were safe.*

Train Crew Managers completed various checks at TMO Crossings, post Llandoverly, which were monitored through the ATW Internal OPSRAM [Operational Risk Reduction and Mitigation].

ATW has provided route risk assessment training to its front line operational train crew managers and amended its procedure to reflect a line of route approach.

Train Crew Managers are progressing with the change to route risk assessments and ATW is due to undertake an audit in December 2014 of this process.

ORR decision

19. ORR, having reviewed the responses from Arriva Trains Wales has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

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

Status: Implemented.

Recommendation 5

The intent of this recommendation is to reduce the risk of error at train crew operated level crossings by providing positive indications of the status of those crossings.

Network Rail should review the current arrangements for providing an indication to the train driver of the status of the crossing at Llandovery. This should include consideration of the practicability of providing an active indication when the crossing is still open to road traffic (e.g. a flashing red light). This review should then be extended to other train crew operated level crossings of a similar design.

Steps taken or being taken to address the recommendation

20. On 14 August 2014, Network Rail provided the following information:

Network Rail will review the current arrangements for providing an indication to the train driver of the status of the crossing at Llandovery. This will include the consideration of providing an active indication of when Llandovery crossing is still open to road traffic. This review will involve the necessary stakeholders including the Operations Risk Advisor (ORA), technical experts, Asset Management, the ORR and the wider Train Operating Companies (TOC) and Freight Operating Companies (FOC) community to ensure all risks are assessed and the appropriate solution is proposed. The review will be complete by 31 December 2014 and will propose recommendations for implementation. A further assessment of the completion date will be undertaken once the recommendations have been made.

In parallel with the work on Llandovery crossing, Network Rail will undertake an exercise to ascertain the likelihood of similar risks arising at other TMOB sites where poor sighting of the Stop Board and flashing white light indication contribute to the risk of a train passing these without authority. The assessment of Llandovery will input into a Cost Benefit Analysis of any proposed mitigations on the estate of fourteen Train Crew Operated Barrier (TMOB) crossings. The Cost Benefit Analysis work will be complete by 30 March 2015. The outcome of this Cost Benefit Analysis will then determine any further action, and closure date for this work will then be determined if action is deemed necessary.

Timescales: Route: Review to be completed by 31 December 2014

National: Review to be completed by 30 March 2015

Implementation date to be determined

21. On 26 September 2014, ORR wrote to Network Rail requesting a plan for any further actions with timescales for completion. On 16 February 2015, Network Rail provided an update stating that:

The national action plan has not been implemented due to resources on higher priority Business Critical Rules Programme work, some of which will benefit the action plan. In particular, the critical controls for design feasibility will cover the opportunities that may arise for improving the mitigations for train stopping positions close to level crossings, in line with the requirements published in NB 123. It is now proposed to implement action in conjunction with revised governance for level crossing principles within Network Rail, and start this from April 2016, with the aim of establishing any feasible solutions for train crew operated crossings by end of August 2016. Delaying this work is not seen as having a measurable impact on safety of train crew operated barriers.

Timescale: 31 August 2016

ORR decision

22. ORR, having reviewed the responses from Network Rail has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

- taken the recommendation into consideration; and
- is taking action to implement it with completion by *31 August 2016*

Status: Implementation on-going: *ORR will advise RAIB when actions to address this recommendation have been completed.*

Recommendation 6

The intent of this recommendation is to control the risk created by train-crew continuing to operate trains in service where there is evidence that their actions contributed to a serious operational incident.

Arriva Trains Wales should review and improve the training and guidance given to its Duty Control Managers (DCM) on the steps to be taken when train crew are involved in a serious operating incident where their actions directly contributed to it.

Steps taken or being taken to address the recommendation

23. On 28 July 2014, Arriva Trains Wales provided the following information: *The ATW Control Centre Manager provided a brief for all Duty Control Managers (DCMs) that provided guidance on the steps to be taken when train crew are involved in a serious operating incident where their actions directly contributed to it.*

The ATW training department is building a Control Development Day by identifying all the tasks applicable to their job role and we are considering a Controllers training package. The planned completion date is 31 October 2014.

24. On 28 October 2014, Arriva Trains Wales provided a copy of its DCM briefing 'Incidents involving ATW Train-crew where their actions directly contributed to it, 19 May 2014, which states:

Background

On 6 June 2013 an ATW service traversed Llandovery level crossing with the barriers in the upright position due to the train-crew not operating the barrier equipment prior to departing Llandovery station, a near miss with a road vehicle then occurred, which a member of the public reported through the Police to Network Rail.

The train crew admitted they had failed to operate the crossing equipment during a call to Control, but were allowed to continue working the train.

Further to the group briefing regarding this incident which all DCM's received during the DCM meeting of 19 May 2014, The written briefing attached below details what actions should be taken if train-crew are involved in any serious operational incident where their actions contributed towards it.

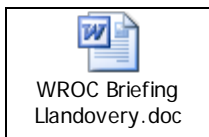
Briefing

Should information come to light **during or after** a serious operational incident* that the train crew working the s actions contributed to the incident the following should be adhered to:

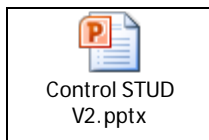
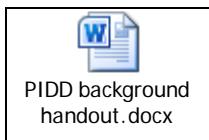
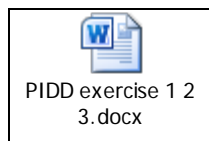
- Train crew should be contacted immediately & instructed not to work the train service forward until the Duty Control Manager liaises with the relevant on call manager.
- Bronze, Silver Support and Silver on call managers should be informed and the Bronze on call Manager should decide whether the train should continue.

*serious operational incidents can be defined as any incident which requires the relevant bronze "on-call" manager to be contacted and their advice / guidance to be sought

25. On 26 September 2014, ORR wrote to Arriva Trains Wales requesting a copy of the Duty Control Manager's brief and sight of the content of the Control Development Day material when available. On 16 February 1015, Network Rail provided a copy of its DCM Briefing dated 19 May 2014.



26. On 25 March 2015, ATW provided the contents of its Control Safety Training Update Day, which is effectively the Control Development Day.



ORR decision

27. ORR notes that ATW has conducted a Control Development Day and supplied briefing material about this incident to its Duty Controllers. ATW has provided its Duty Control Managers with additional training and guidance.

28. ORR, having reviewed the responses from Arriva Trains Wales has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations it has:

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

Status: Implemented.