



Rail Accident Investigation Branch



Annual Report 2010

Section 2:

Reported Status of RAIB's Recommendations 2010

Department for
Transport

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Details of the progress of recommendations made in published investigation reports, not including details of recommendations that have been classed as implemented in previous annual reports.

The following grid gives reference to details of recommendations by year and by railway type.
(Note: sections can be reached by clicking on the appropriate railway type and/or page number in the table below)

Year report published	Recommendations made for:				
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Moy, Inverness-shire	26-Nov-05	Passenger train derailment	20
Elsenham Station	03-Dec-05	Fatal accident	21
Autumn Adhesion, Investigation Parts 1, 2 and 3	25-Nov-05 & 30-Nov-05	Review of adhesion-related incidents	22
Bratts Blackhouse No.1 UWC, near Sizewell, Suffolk	22-May-06	Freight train collision with road vehicle on level crossing	28
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Deal, Kent	29-Jul-06	Fatal accident involving a train driver	29
Crofton Old Station No.1 Level Crossing, W. Yorks	01-May-06 & 18-May-06	Two near misses	30
Dagenham Dock	17-Jul-06	Fatal accident to shunter	30
Manor Park	19-Mar-06	Possession irregularity	31
Badminton	31-Oct-06	Collision between two track maintenance machines	32
Copmanthorpe	25-Sep-06	Collision between train and car	33
Epsom	12-Sep-06	Passenger train derailment	34
M20 overline bridge, Aylesford	05-Feb-07	Collision between a train and a road vehicle	34
Washwood Heath	08-Sep-06	Freight train derailment	35
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Tinsley Green Junction	17-Mar-07	Near miss involving track worker	36
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Level Crossing XL202, Northern Ireland	02-Aug-07	Level crossing fatality	41
Croxton AHB Level Crossing	12-Sept-06	Passenger train derailment	42
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Duddeston Junction	10-Aug-07	Freight train derailment	44
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Between Leigh-on-Sea and Chalkwell	26-Apr-08	Collision with other train	97
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East Somerset Junction	10-Nov-08	Freight train derailment	102
Kennington Junction	23-May-08	Staff hit by train (Injury)	105
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Bayles & Wylies FPC, Bestwood, Nottingham	22-Nov-08	Level crossing fatalities	109
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Wigan North Western Station	25-Aug-09	Freight train derailment	127
Whitehall West Junction, Leeds	02-Dec-09	Staff hit by train (Fatality)	128
Halkirk level crossing, Caithness	29-Sep-09	Level crossing fatalities	129
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Introduction

Introduction

For details about the role of the Rail Accident Investigation Branch (RAIB), see part 1 of the Annual Report titled “The role of the Rail Accident Investigation Branch”; this includes hyperlinks to the RAIB website that give a full explanation of the various organisation duties.

This part of the report gives details of feedback to the RAIB from Safety Authorities, the response and detail of actions taken is very important to provide a clear view of the process, and enables everyone to have a view of the safety improvements arising from the RAIB’s investigations. Please note the status quoted against each recommendation relates to the position recorded as at 31 December 2010. Further progress may have been made since January 2011, if so this will be included in the RAIB Report for 2011.

The Recommendation Progress Report

This section details the status of RAIB recommendations made until the end of 2010 that:

- a. are still in progress;
- b. the Safety Authority has reported as being fully implemented or non implementation; and
- c. have been reported as implemented by other public bodies.

There were 98 recommendations made in 2010; of these 90 fell within the ORR area of responsibility as the relevant safety authority. One was addressed to the Department for Transport and six to other public bodies. The joint investigation with BEA-TT concerning the fire on Eurotunnel Freight Shuttle 7412 on 11 September 2008 made a total of 39 recommendations; these are being monitored by BEA-TT and are not included in the recommendation progress section.

The accidents/incidents are listed by railway sector type followed by the report number in chronological order of the date of publication. A summary of the details of each accident/incident, including details of the location and date of occurrence is also included.

The status of implementation of the RAIB's recommendations, as reported by the safety authority or public body, has been divided into four categories:

Key to Recommendation Status

Implemented:	Regulation 12(2)(b)(i) = recommendation accepted and implemented
In-progress:	Regulation 12(2)(b)(ii) = recommendation accepted and implementation proposed
Non-implementation:	Regulation 12(2)(b)(iii) = recommendation considered and no implementation action to be taken
Awaiting response	Awaiting initial response

- ▲ The red triangle shows recommendations where the RAIB has particular concerns that no actions have been taken in response to a recommendation.
- ▲ The blue triangle shows recommendations where the RAIB has concerns that the actions taken, or proposed to be taken, are inappropriate or insufficient to address the risk identified during the investigation.

The Recommendation Progress Report

List of all investigation reports that had recommendations in-progress at the beginning of 2010

Report year 2006		Status Category				
		1	2	3	4	5
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	Total Recommendations from report
08	Freight train derailment at Hatherley, near Cheltenham Spa			5		5
14	Derailment near Liverpool Central underground station			7	1	8
20	Report on the runway manually propelled trolley between Larkhall and Barncluith Tunnel		2	14		16
22	Derailment near Moy, Inverness-shire			10		10
23	Investigation into station pedestrian crossings (including pedestrian gates at highway level crossings); with reference to the fatal accident at Elsenham station			9	1	10
Total for 2006		0	2	45	2	49
Percentage of total		0%	4%	92%	4%	100%

Report year 2007		Status Category				
		1	2	3	4	5
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	Total Recommendations from report
-	Autumn adhesion events (inc SPADs, Esher (25/11/05) & Lewes (30/11/05))		8	17		25
07	Passenger train derailments on the Ravenglass & Eskdale Railway			8		8
08	Derailment at Long Millgate, Manchester			4		4
09	Train collision with a road vehicle at Bratts Blackhouse No 1 User Worked Crossing, near Sizewell, Suffolk		1	5	2	8
13	Locomotive runaway near East Didsbury		1	7		8
14	Fatal accident involving a train driver, Deal			8	1	9
16	Two near misses at Crofton Old Station No.1 Level Crossing, near Wakefield, West Yorkshire			6		6
23	Fatal accident to Shunter, Dagenham Dock			7		7
26	Possession irregularity near Manor Park		1	2		3
30	Collision at Badminton		1	3		4
32	Passenger train derailment near Fisherground on the Ravenglass & Eskdale Railway			2		2
33	Fatal collision between a Super Voyager train and a car on the line at Copmanthorpe		1	1		2
34	Derailment at Epsom			3		3
35	Collision at Swanage station			5		5
36	Collision between a train and a road vehicle, M20 overline bridge, Aylesford		1	5		6

The Recommendation Progress Report

Report year 2007 (continued)		Status Category				Total Recommendations from report
		1	2	3	4	
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	
37	Fire on HGV shuttle in the Channel Tunnel		1	13	2	16
39	The derailment of a freight train at Washwood Heath			4		4
41	Fire on prototype tram 611 at Blackpool		1	1		2
42	Derailment at Cromore, Northern Ireland	1		6		7
43	Near miss involving a track worker at Tinsley Green Junction		4	4		8
44	Derailments at London Waterloo		5	9		14
46	Train/vehicle collision on the Leighton Buzzard Narrow Gauge Railway		1	2		3
Total for 2007		1	26	122	5	154
Percentage of total		1%	17%	79%	3%	100%

Report year 2008		Status Category				Total Recommendations from report
		1	2	3	4	
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	
02	The derailment of a freight train at King Edward Bridge, Newcastle		2	2		4
04	Track worker fatality at Ruscombe Junction		6	1		7
05	Derailment in Hooley Cutting, near Merstham, Surrey			9		9
07	Derailment of a passenger train near Kemble		2			2
09	Derailment of a tram at Pomona, Manchester			5		5
10	Collision between a train and tractor on crossing XL202 near Limavady Junction, Northern Ireland		1	5		6
11	Derailment of a train at Croxton Level Crossing		6	5		11
12	Runaway of two wagons from Camden Road Tunnel			8		8
13	Two trains in the same section at Aylesbury			4		4
14	Collision with the gates at Lydney Town level crossing		4	6		10
16	Derailment at Duddeston Junction, Birmingham		8			8
18	Collision of a train with a demolished bridge, Barrow upon Soar			3	1	4
19	Accident at Leatherhead		5	1		6
20	Derailment at Grayrigg		24	5		29
21	Fatal accident to a trackworker east of Reading station		3	2		5

The Recommendation Progress Report

Report year 2008 (continued)		Status Category				Total Recommendations from report
		1	2	3	4	
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	
22	Train overspeeding through an emergency speed restriction at Ty Mawr Farm Crossing		3	4		7
23	Signal passed at danger and subsequent near miss at Didcot North junction		3	4	2	9
24	Minor collision between an engineering unit and two manual trolleys near St. John's Wood		2	12		14
25	Network Rail's Management of existing Earthworks		2	4		6
26	Near miss involving railway staff and a train between Bishop's Stortford and Stansted Mountfitchet, Essex		1	4		5
27	Fatal accident at Moor Lane footpath crossing, Staines		4			4
Total for 2008		0	76	84	3	163
Percentage of total		0%	47%	51%	2%	100%

Report year 2009		Status Category				Total Recommendations from report
		1	2	3	4	
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	
01	Fatal accident at West Lodge crossing, Haltwhistle		3	1		4
02	Derailment at Ely Dock Junction		6	10		16
03	Derailment of a road rail vehicle at Terryhoogan, near Scarva, Northern Ireland			4		4
04	Derailment near Exhibition Centre station, Glasgow		3		1	4
05	Runaway of a road-rail vehicle at Glen Garry		7			7
07	Derailment of a freight train near Moor Street station, Birmingham		2	1		3
08	Uncontrolled movement of a road vehicle in a Channel Tunnel passenger shuttle train in transit from the UK to France			3		3
09	Fatal accident at Tackley station level crossing, Oxfordshire			6		6
10	Derailment at Santon near Foreign Ore Branch Junction, Scunthorpe		6	2	1	9
11	Road-rail vehicle runaway incidents at Brentwood, Essex and at Birmingham Snow Hill			6		6
12	Detachment of containers from freight wagons near Cheddington and Hardendale		5	5		10
13	Investigation into safety at user worked crossings	1	1	5	1	8

The Recommendation Progress Report

Report year 2009 (continued)		Status Category				Total Recommendations from report
		1	2	3	4	
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	
14	Near miss at Poplar Farm level crossing, Attleborough, Norfolk		1	1		2
15	Collision between a passenger train and two rail-mounted grinding machines at Acton West		1	7		8
16	Derailment of a Docklands Light Railway train, near Deptford Bridge station, London			11		11
17	Collision near New Southgate		1	4		5
19	Track worker struck by a train on Grosvenor Bridge, London Victoria		5	3	1	9
20	Near miss at Llanbadarn Automatic Barrier Crossing (Locally Monitored), near Aberystwyth		5	3		8
21	Incident involving a container train at Basingstoke Station			3		3
22	Collision with debris from bridge GE19 near London Liverpool Street		1	5	1	7
23	Trackworker struck by train, Stevenage		2	4		6
24	Freight train collision at Leigh-on-Sea		1	5	1	7
25	Derailment at St Peter's Square, Manchester		3	2		5
26	Fatal accident at Wraysholme crossing, Flookburgh, Cumbria		4	1		5
27	Investigation into runaways of road-rail vehicles and their trailers on Network Rail		3			3
28	Derailment of two locomotives at East Somerset Junction		6	5		11
29	Serious injury sustained by a signal technician at Kennington Junction		2	1		3
30	Accident at Dalston Junction		3			3
31	Container doors hit passenger trains, Penrith Station & Eden Valley Loop, Cumbria		3			3
32	Double fatality at Bayles & Wylies footpath crossing, Bestwood, Nottingham		3	5		8
33	Collision and derailment of a passenger train at North Rode, between Macclesfield and Congleton		1	2		3
Total for 2009		1	78	105	6	190
Percentage of total		1%	41%	55%	3%	100%

The Recommendation Progress Report

Report year 2010		Status Category				5
		1	2	3	4	
No	Investigation Title	Awaiting response	In-progress	Implemented	Non-implementation	Total Recommendations from report
01	Derailment of a freight train at Marks Tey, Essex	7				7
02	Derailment of a freight train near Stewarton, Ayrshire	11	1			12
03	Derailment of a Docklands Light Railway train near West India Quay station, London	7				7
04	Incident at Greenhill Upper Junction, near Falkirk	6				6
05	Near-miss at Hanger Lane junction		1	5		6
06	Derailment of a passenger train near Cummersdale, Cumbria	5				5
07	Derailment at Hampton Loade, Severn Valley Railway	5				5
08	Fatal accident at Fairfield Crossing, Bedwyn		1	2		3
09	Fatal accident at Norbreck, Blackpool	2				2
10	Collision at Exeter St Davids station	1				1
11	Derailment at Windsor and Eton Riverside station	3				3
12	Overhead line failure, St Pancras International	7				7
13	Collision on the Great Orme Tramway		2			2
14	Derailment at Wigan North Western station	4				4
15	Fatal accident at Whitehall West junction, Leeds	1	1			2
16	Fatal accident at Halkirk level crossing, Caithness	6				6
17	Failure of Bridge RDG1 48 (River Crane) between Whitton and Feltham	5	1			6
18	Near-miss on Victory level crossing, near Taunton, Somerset	4				4
19	Derailment near Gillingham tunnel, Dorset	5				5
20	Incident at Romford Station	5				5
Total for 2010		84	7	7	0	98
Percentage of total		86%	7%	7%	0%	100%

Recommendations made in 2010 to end implementer

End Implementer	Number
Department for Transport (DfT)	1
Docklands Light Railway Ltd (DLRL)	4
Equipment Suppliers	1
Freight, Train Operating Company (FOC)	8
Heritage Railway	5
London Underground Ltd	6
Mainline Infrastructure Owners	6
Metro, Train Operating Company (TOC)	3
Network Rail	56
Non-Railway Contractors	1
Other Public Bodies	6
Passenger, Train Operating Company (TOC)	3
Total	*100
*Note: a number of Safety Recommendations are made to more than one end implementer	

End Implementer for recommendations made in the joint investigation by BEA-TT and RAIB, into the fire in the Channel Tunnel, September 2008	Number
Eurotunnel	39
Other Public Bodies	7
Safety Authorities	2
Total	*48
*Note: a number of Safety Recommendations are made to more than one end implementer	

1 National Network(s)

Recommendation responses made for National Network(s) in reports published in 2006 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotive	Hatherley, just south of Cheltenham Spa Station	05:20	18 October 2005	Freight train derailment
RAIB Report No:	08/2006		Published:	14 July 2006

Summary

Freight train 6V19 was travelling between Bescot and Margam on the Birmingham to Bristol line when all the wheels of one of its wagons became derailed near Hatherley, just south of Cheltenham Spa station. The derailed wagon was the 14th vehicle in the formation.

Recommendations Five recommendations are made

RECOMMENDATION

4

Status: Implemented

Freight Operators should:

- determine appropriate limits for handbrake application force, consistent with the requirement for ease of operation;
- put systems in place to ensure that handbrakes on SSA and other fleets are maintained to these limits; and
- put systems in place to ensure that handbrake indicators are maintained to provide reliable indication to staff.

Comment

ORR and Freight Operators have reported that they have taken actions in response to this recommendation. ORR propose to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 508 EMU, no 508124	Liverpool Central underground station	17:06	26 October 2005	Passenger train derailment
RAIB Report No:	14/2006		Published:	11 August 2006

Summary

Train 2W43, the 17:06 hrs Merseyrail passenger train from West Kirby to West Kirby, via Liverpool Lime Street, derailed about 200 m on the approach to Liverpool Central underground station in Network Rail's London North Western Territory. The last bogie of the train derailed.

Recommendations Eight recommendations are made

RECOMMENDATION

5

Status: Non-implementation

Network Rail should carry out studies to predict the fatigue life of tie-bars in different applications and ensure consistency with standards and practice to deliver tie-bars that are fit-for-purpose for all situations.

Comment ▲

Network Rail has reported to the ORR that it sees no value in a general study into the fatigue life of tie-bars. ORR has informed the RAIB that it accepted Network Rail's view that improving track maintenance arrangements tackled the root of the problem and that a fatigue life study of the tie-bars was of limited value. ORR also accepted that the risk of a tie-bar failing due to fatigue is reduced by following Network Rail instructions and guidance 'How to install and maintain a tie bar'. The ORR has therefore concluded that Network Rail has complied with their legal obligations in respect of this recommendation.

The RAIB is concerned that basic research into the fatigue life of tie-bars has still to be undertaken because there are no controls over the number of times a tie bar can be re-used.

Equipment Type	Place	Time	Date	Incident
National Network(s): Manually Propelled Trolley	Between Larkhall and Barncluith Tunnel	06:49 - 06:51	2 November 2005	Runaway
RAIB Report No:	20/2006	Published:	2 November 2006	

Summary

A manually propelled trolley being used within a T3 engineering possession on the partially built Larkhall branch in the Hamilton area in Scotland ran away from the trolley operator. The trolley travelled over three miles down hill, passing over steep gradients of up to 1 in 48 and reaching speeds above 20 mph (32.1 km/h), eventually leaving the limits of the possession and running onto a railway line open to traffic. The trolley eventually came to a stand within Barncluith tunnel. A possible collision with a passenger unit was prevented by the activation of a track circuit within the tunnel by the trolley.

Recommendations**Sixteen recommendations are made****RECOMMENDATION****9****Status: Implemented**

RSSB should propose revision of the rulebook to recognise the risks associated with the braking performance of trolleys in wet or icy conditions, on gradients and with contaminated brakes, along with instruction to perform any necessary brake test to demonstrate the trolley brake is performing to its specification in all circumstances.

Comment

ORR has reported that RSSB has carried out a review in response to this recommendation. RSSB propose no further action.

ORR considers that RSSB has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**10****Status: In-progress**

Network Rail should revise its training requirements to match the output of Recommendation 9, and introduce a competency within the Sentinel system for a person in charge of trolleys.

Comment

Network Rail has considered the recommendation, and believes that a specific training module in the Sentinel suite is disproportionate to the risk of runaway trolleys.

ORR is seeking further information.

RECOMMENDATION**12****Status: Implemented**

Network Rail should review their guidance on product acceptance processes and 'grandfather rights', with particular reference to plant, to ensure that there is clarity to relevant parties on the design change approvals criteria and particularly in respect where it affects 'grandfather rights'.

Comment

ORR has reported that Network Rail has carried out a review in response to this recommendation. Network Rail propose no further action.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

1 National Network(s)

RECOMMENDATION	14	Status: In-progress
<p>Network Rail should carry out a risk assessment on the use of red lights on trolleys used in T2 sites and either;</p> <ul style="list-style-type: none"> enforce the existing requirement for such lights, which will include the fitting of brackets to all existing and future trolleys on the network; or propose a modification to Rule Book Module T2, paragraph 15.5, to remove the requirement for a red light on a trolley. 		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 170 DMU	Moy, Inverness-shire	07:02	25 November 2005	Passenger train derailment
RAIB Report No:	22/2006	Published:	29 November 2006	

Summary	
<p>Passenger train 1B08, a 3-car Class 170 diesel multiple unit (DMU) operated by First ScotRail, travelling from Inverness to Edinburgh on the Inverness to Perth section of the Highland Line, derailed after encountering a landslip in a cutting north of Moy in Inverness-shire.</p> <p>All wheels of the leading car derailed to the left. No wheels of the other two cars were derailed. The derailed train travelled approximately 122 m before coming to rest upright close to the 105 ½ milepost.</p> <p>The impact with the landslip debris, and the subsequent derailment, resulted in damage to the leading vehicle. This was mainly restricted to the front cab, the bogies and the vehicle under frame equipment. The impact also caused the release of a ceiling panel in the passenger saloon which hinged downwards and prevented the driver from being able to open the cab-to-passenger-saloon door.</p>	
Recommendations	Ten recommendations are made

RECOMMENDATION	4	Status: Implemented
<p>The Scottish Executive and the Department for Communities and Local Government in England and Wales should ensure that Network Rail becomes a statutory consultee for planning applications for developments in the vicinity of the railway.</p>		
Comment		
<p>The Scottish Executive and the Department for Communities and Local Government in England and Wales have outlined to the RAIB the actions it proposes to take in response to the recommendation. They have reported that they are currently reviewing the existing statutory consultation arrangements and as part of this review they are working with Network Rail to consider how they can improve their engagement with the planning application process in the most proportionate way.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Pedestrian Crossings	Elsenham Station	10:40	3 December 2005	Fatal accident
RAIB Report No:	23/2006	Published:	11 December 2006	

Summary

This investigation was initiated following a fatal accident at Elsenham station on 3 December 2005. The remit can be summarised as follows:

- to identify the number and distribution of station pedestrian crossings in the UK (including pedestrian gates associated with highway crossings);
- to investigate the safety issues associated with crossings of this type;
- to make general recommendations for the improvement of safety at station pedestrian crossings;
- to investigate the circumstances of the accident at Elsenham; and
- to make specific recommendations for the improvement of safety at Elsenham.

Recommendations	Ten recommendations are made
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RECOMMENDATION**5****Status: Implemented**

Network Rail, to carry out the necessary research, tests and trials to inform a review its own designs and operating policies for station pedestrian crossings and as an input to the review of guidance to be undertaken by ORR in line with Recommendation 4.

Comment

ORR has reported that Network Rail has reported that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**6****Status: Non-implementation**

Network Rail to seek approval from ORR for the installation of fixed signage at station pedestrian crossings that cross more than one running line to remind users of the risk from a second train.

Comment ▲

After consideration Network Rail is proposing to take no action in response to this recommendation.

ORR has informed the RAIB that it is keen to avoid clutter and, perhaps, confusion from additional signs. ORR doubt the benefit of such signs and remain to be convinced that they will be read, particularly by regular users. ORR await the report from the Law Commission, who we expect will consider the law relating to signs at level crossings.

The ORR has informed the RAIB that it has considered the recommendation and Network Rail's response and concluded it does not believe implementation is justified.

The RAIB is concerned that this measure is not being taken forward. The RAIB has not seen any evidence to support the contention that additional signage would not be read by users.

1 National Network(s)

Recommendation responses made for National Network(s) in reports published in 2007 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
National Network(s): Mainline Passenger Trains	Autumn Adhesion, Investigation Parts 1, 2 and 3	06:30	25 & 30 November 2005	Review of adhesion-related incidents
RAIB Report No:	25/2006		Published:	8 January 2007

Summary

The immediate cause of the SPAD incidents that occurred at Esher on 25 November 2005 and Lewes on 30 November 2005 (which are the subject of Parts 1 and 2 of this investigation report) was poor adhesion between wheel and rail. Both trains involved had failed to stop within normally expected distances, despite the systems on the train performing in accordance with their specifications and the drivers correctly implementing the professional driving policy prevailing within the relevant Train Operating Company (TOC) at the time. Both trains had travelled a distance of approximately 3 km from the time that the driver had first applied the brake. Stopping distances under normal circumstances would have been less than 2 km. These two incidents occurred against a backdrop of an increase in the number of adhesion related SPAD incidents and a significant increase in the number of adhesion-related station overrun incidents on the national rail network during autumn 2005, as compared with autumn 2004.

Recommendations **Twenty five recommendations are made (over all three reports)**

PART 2, RECOMMENDATION 1 Status: Implemented

Network Rail to:

- conduct a review of the approach used to assess the competence of new and existing signallers in their use of emergency equipment and amend it as necessary to ensure that the questions used probe a signaller's understanding of how they would use the emergency equipment provided;
- use the training simulator at Redhill to test signallers employed in the Sussex Route periodically on their response to rarely-experienced scenarios such as the need to stop all trains and specific trains in an emergency; and
- review and modify as appropriate their current practice on other routes to exploit the availability of simulators for testing signallers periodically on their response to rarely-experienced scenarios such as the need to stop all trains and specific trains in an emergency.

Comment

ORR has reported that Network Rail has reported that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

PART 3, RECOMMENDATION 1 Status: In-progress

Train operators to:

- make modifications to multiple units already fitted with sanding equipment to permit application of sand in brake step 2 and above (or the equivalent of brake step 2 and above on multiple units fitted with step-less brake controllers) for the duration of the period when the WSP system is active on the leading vehicle;
- adjust, as appropriate, rolling stock maintenance activities during the autumn low adhesion period to include enhanced monitoring of sand hoppers to ensure that sand is always available; and
- review their maintenance policies and practices for sanding systems to check that they are targeted at ensuring that the system continues to deliver sand to the point where wheel meets rail.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

PART 3, RECOMMENDATION	2	Status: In-progress
<p>Train operators to:</p> <ul style="list-style-type: none"> • modify as appropriate their instructions to drivers regarding the braking of trains equipped with a WSP system in low adhesion conditions to ensure that if the expected level of retardation is not achieved during the initial stage of braking, the optimum position of the brake controller is immediately selected to maximise braking efficiency. This may involve selecting a full service brake application or, where appropriate, an emergency brake application. • brief any revised instructions to drivers. 		
Comment		
<p>Most train operators have outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
PART 3, RECOMMENDATION	3	Status: In-progress
<p>Train operators of multiple units operating in single unit formations to consider increasing the length of train consists during the autumn low adhesion season where reasonably practicable, eg:</p> <ul style="list-style-type: none"> • where rolling stock is available; • where platforms can accommodate longer trains; and • where, based on the train operator's review of low adhesion events and knowledge of problem areas for adhesion, there is a demonstrable benefit in so doing on specific routes and/or at specific times of day. 		
Comment		
<p>Most train operators have outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
PART 3, RECOMMENDATION	8	Status: Implemented (see note below)
<p>RSSB to extend research and testing into how severe low adhesion conditions occur with particular reference to the phenomenon of micro layers of contamination on rail surfaces, invisible to the eye. The research will seek to establish the nature of the contaminant, how it reaches the rail and bonds with it, the circumstances under which the contaminant poses a particular threat to train braking (eg the factors that exacerbate its impact), the factors that determine how long it endures, possible methods for identifying its presence and methods for preventing its formation and dispersing it.</p>		
Comment ▲		
<p>The ORR has informed the RAIB that low adhesion is one of its priority risks and that there are a number of activities being taken forward. The ORR states that there is significant activity in GB and internationally to better understand low adhesion and preventative measures, and is using this intelligence to form a strategic view of this subject. For example, the ORR has been monitoring original work done by industry in autumn 2010, where Network Rail, Wessex Region has collected and analysed a number of data sets to inform and support its 365 day weather strategy. ORR has most recently advised that the RSSB, in conjunction with the Adhesion Research Group will be commencing further work in this area in November 2011.</p>		
<p>The RAIB considers that the the research carried out to date is valuable. However, measures to address the detection and dispersal of micro layers of contamination have still to be developed. In particular, the RAIB notes that research undertaken by one consultant has suggested that water jetting may not be able to counter the effects of very small quantities of oil on the rail head. The RAIB has not seen any details of the scope of the proposed research to be contracted by the RSSB and the Adhesion Research Group, but hopes that it will make a significant contribution to address the risk identified in this recommendation.</p>		
<p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		

1 National Network(s)

PART 3, RECOMMENDATION	9	Status: In-progress
Train operators to fit automatic sanding equipment to those multiple units of five cars or less that are not currently so equipped, unless they are specifically excluded from doing so by GM/RT2461.		
Comment		
No change in status to that reported in the 2009 Annual Report. However, in September 2011 the RAIB was informed by ORR that, Network Rail is now leading an initiative to fit sanders to those types of vehicles on which the fitment of such equipment had previously been precluded (eg Classes 14x and 153 diesel multiple units). A time bound plan has been agreed and progress is to be monitored by the ORR.		
PART 3, RECOMMENDATION	10	Status: Implemented (see note below)
RSSB to lead research into ways of deriving quantitative criteria for braking performance under low adhesion conditions and the implications of each identified approach (including the potential impact on railway infrastructure). The research should include a consideration of the levels of adhesion against which performance (eg stopping distances or deceleration rates) should be demonstrated. The implications of adopting the approach proposed in the draft second issue of the high speed rolling stock TSI should be considered. The results from the research should be incorporated into the relevant RGS as appropriate and disseminated to those who are revising the high-speed rolling stock TSI.		
Comment ▲		
<p>ORR has identified that there are a number of activities ongoing in the railway industry which has the potential to address the issues in Recommendation 10. In particular, ORR advises that RSSB and the Adhesion Research Group are commencing research on brake performance and will be conducting a brake package review.</p> <p>The RAIB notes this position and is awaiting further information on the outcome of current and proposed research.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate, although they will be monitoring the referenced research.</p> <p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		
PART 3, RECOMMENDATION	11	Status: Implemented (see note below)
<p>RSSB to review the relevance of existing sanding parameters within GM/RT 2461 and amend, enhance or supplement them with additional guidance where appropriate. The review is to encompass:</p> <ul style="list-style-type: none"> • implications (cost, benefits and disbenefits) of increasing the guide value of 2 kg/minute for maximum sanding rate (taking account of the trials undertaken during August 2006 by Southern Railway); • the current sanding initiation threshold (full service and emergency braking) and the effect of reducing it to Step 1 or equivalent value for trains equipped with stepless brake controllers; • the need for criteria covering minimum sanding duration; • the need for criteria on sanding at low speeds including the implications of permitting sanding until the train has come to a stand; and • identification of ways in which currently excluded vehicles (eg Classes 142-144, 153) can be equipped with sanders. 		
Comment ▲		
<p>ORR is aware of further work being undertaken by RSSB (Project T797 Performance and installation criteria for sanding systems). This will include a detailed record of sander system and track circuit conditions and updates to the design and fitting requirements of sanding systems (GM/RT2461) will be produced. It is planned that the research project will be completed by 16 December 2011 which will in turn inform changes to industry standards and guidance - this is planned to be completed by 30 December 2013.</p> <p>ORR has advised the RAIB that following successful trials Network Rail and Transys have an agreed time bound plan for the fitting of sanders to all multiple units that were previously excluded by GMRT 2461 from the requirement for sanders. ORR is monitoring the programme and fitment and is engaged with both Transys and the relevant TOCs to agree plans and actions. The RAIB is encouraged to hear that the fitment of sanders to certain types of vehicles that had previously been excluded is now to take place. The RAIB notes that the other changes envisaged by this recommendation may not be incorporated into standards until December 2013.</p> <p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		

PART 3, RECOMMENDATION	12	Status: Implemented (see note below)
<p>RSSB to carry out research in conjunction with Network Rail and train operators into the implications (cost, benefits and disbenefits) of:</p> <ul style="list-style-type: none"> adopting enhanced sanding rates under emergency conditions above a defined speed threshold (either activated manually by the driver or automatically activated by the placing of the brake controller into the emergency position when WSP is active); allowing leading wheel sanding for high speed emergency braking; permitting units other than the leading unit to dispense sand under emergency conditions; and methods of avoiding the problem of excessive sand causing failures to operate track circuits (eg use of different materials or additives). 		
Comment		
<p>ORR has reported that RSSB has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is aware of further work being undertaken by RSSB (Project T797). A detailed record of sander system and track circuit conditions and updates to the design and fitting requirements of sanding systems (GM/RT2461) will be produced. It is planned that the research project will be completed by 16 December 2011 which will in turn inform changes to industry standards and guidance - this is planned to be completed by 30 December 2013.</p> <p>The RAIB welcomes the new research being undertaken by the RSSB (T797) which will include consideration of variable sanding rates.</p> <p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		
PART 3, RECOMMENDATION	14	Status: In-progress
<p>Train operators to check the sand dispensing rate of each train within their fleets and ensure that it is set to the RGS GM/RT2461 guidance value of 2 kg/minute except where a higher value has been permitted.</p>		
Comment		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
PART 3, RECOMMENDATION	15	Status: In-progress (see note below)
<p>RSSB to establish a project to:</p> <ul style="list-style-type: none"> Measure the accuracy of existing WSP (Wheel Slide Protection) simulation rigs that could be used to support rolling stock approvals. This validation should include reference to records obtained from train data recorders following actual incidents and full-scale testing as appropriate. The latter should include a direct comparison between UIC (International Union of Railways) detergent test data and a simulation of the same. Examine the feasibility of extending the capability of an existing WSP simulation tool in order to predict more accurately the behaviour of an entire train in low adhesion conditions (eg allowing for rail head conditioning, the effect of sanding and more than one vehicle). <p>The results from the project should be used to inform the developing Euronorm on WSP equipment testing.</p>		
Comment		
<p>RSSB has outlined the actions to be taken in response to the recommendation.</p> <p>The RAIB welcomes research that is now proposed by the RSSB (research project T797) that will address some of the issues identified in Recommendation 15 & 16.</p> <p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		

1

National Network(s)

PART 3, RECOMMENDATION	16	Status: In-progress (see note below)
<p>Subject to the successful development of the simulation tool described in Recommendation 15, RSSB to undertake a programme of modelling to evaluate the impact of different control strategies for minimising stopping distances under various low adhesion conditions. The simulation should specifically address potential alternative strategies for extreme circumstances including:</p> <ul style="list-style-type: none"> • changing WSP (Wheel Slide Protection) control algorithms for the level of slip permitted from the current value of 17 - 20%; and • permitting different levels of slip on wheels on the same train to optimise overall braking during low adhesion conditions. <p>All the simulations should be designed to evaluate the effect of different strategies on braking performance and rail head conditioning and should include simulations with sanding operative. The results from the programme should be shared with those responsible for drafting relevant highspeed and conventional TSIs (Technical Specification for Interoperability) for possible inclusion in new or revised versions of those documents.</p>		
<p>Comment</p>		
<p>RSSB has outlined the actions to be taken in response to the recommendation.</p> <p>The RAIB welcomes research that is now proposed by the RSSB (research project T797) that will address some of the issues identified in Recommendation 15 & 16.</p> <p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		

PART 3, RECOMMENDATION	18	Status: Implemented (see note below)
<p>RSSB to establish a study into the potential uses of systems on modern rolling stock to:</p> <ul style="list-style-type: none"> • automatically sample adhesion conditions, eg by the controlled braking/release of a single wheel-set on service trains (other than during train braking); • establish the profile, nature and distribution of low adhesion conditions on the national rail network currently and provide input to WSP simulation packages; and • improve intelligence about adhesion conditions in real time, eg use of wireless data transmission to feed details of low adhesion conditions encountered during braking to a monitoring system. <p>The study should take into account operating experience with the Low Adhesion Warning System (LAWS) and consider the lessons learnt in relation to the development of a network wide solution for monitoring low adhesion conditions. The study should be developed in the context of the work currently being undertaken by RSSB in research project T540, 'Scoping and Development of the Adhesion Management System'. The output from this study must include consideration of how the information can be used by the railway industry including the need for signallers and drivers to be made aware of low adhesion conditions in real time.</p>		
Comment		
<p>ORR has reported that RSSB has carried out a study in response to this recommendation (T540). This concluded that the objectives of this recommendation can be met by enhanced communications and enhanced track side signage. The RAIB continues to believe that there is still potential for adhesion / wheel slide data collected by modern trains to be utilised to provide valuable input to railway operators and as an input to wheel slide protection system simulators.</p> <p>The ORR has informed the RAIB that it considered RSSB's study sufficiently addressed consideration of how the information could be used by the railway industry. However, the ORR has further advised that a trial is to be conducted in autumn 2011 by NXEA with a modified DVT fitted with an adhesion modifier delivery system and GPS real time recording of low adhesion areas. ORR will be monitoring and reviewing this trial.</p> <p>Whilst recognising the useful work that has been undertaken by the railway industry the RAIB continues to believe that there is still further potential for adhesion / wheel slide data collected by modern trains to be utilised to provide valuable input to railway operators and as an input to wheel slide protection system simulators. The proposed trial is a positive development, but at this stage the RAIB considers that Recommendation 18 has not been fully implemented.</p> <p>The RSSB has informed the RAIB of research that is now being undertaken at Loughborough University (as part of project T959) to investigate the feasibility of using data related to the dynamic behaviour of wheel sets and bogies during normal running to predict the levels of adhesion available for braking.</p> <p>Note: ORR are currently in the process of producing an update on the status of this recommendation to take into account recent and proposed railway industry research and initiatives.</p>		
PART 3, RECOMMENDATION	19	Status: In-progress
<p>Network Rail to review ETRMS (European Rail Traffic Management System) low adhesion assumptions in the light of the findings of this report and consider whether any changes are needed to ERTMS design or operating parameters in the light of the review.</p>		
Comment		
<p>Network Rail has reported that it has taken actions in response to this recommendation.</p> <p>ORR is seeking further information.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Locomotive 20310	Bratts Blackhouse No.1 UWC, near Sizewell, Suffolk	09:21	22 May 2006	Freight train collision with road vehicle on level crossing
RAIB Report No:	09/2007	Published:		26 April 2007

Summary

On 22 May 2006, a freight train was conveying a discharged nuclear flask from Willesden Brent Yard to Sizewell via a freight only branch line that runs between Saxmundham and Sizewell. As the train crossed over Bratts Blackhouse No.1 User Worked Crossing (UWC) on the Sizewell Branch at 19 mph (30 km/h), it was in collision with a road vehicle travelling from the north side to one of the private dwellings on the south side of the crossing. The linespeed at this point is 25 mph (40 km/h). No one was injured in the collision. The train was not derailed but suffered some minor damage. The road vehicle also suffered some damage to its front and nearside front area.

Recommendations **Eight recommendations are made**

RECOMMENDATION

1

Status: In-progress

Network Rail should explain to the authorised users about the method of safe operation of Bratts Blackhouse No.1 UWC and their responsibilities and confirm this in writing. In addition, a notice to comply with GI/RT7012 Part K3 (Railway Group Standard Requirements for Level Crossings August 2004 Issue 1), should be sent to the authorised users and a copy displayed at the crossing. Network Rail should also take reasonably practicable steps to verify users' compliance with the method of safe operation.

Comment

Network Rail has outlined the actions to be taken in response to the recommendation.
ORR has still to inform RAIB of its response to the industry proposal.

Equipment Type	Place	Time	Date	Incident
National Network(s): Locomotive 66 084, wagon MHA 394620	East Didsbury	01:58	27 August 2006	Locomotive runaway
RAIB Report No:	13/2007	Published:		24 May 2007

Summary

At around 01:58 hrs on 27 August 2006, unmanned locomotive 66 084 became uncoupled from the rear of train 6L22 as it approached Heald Green Station. The locomotive then ran back northwards towards Manchester in the direction from which the train had come for around 3 miles (4.8 km), through a worksite set up between Gatley and Mauldeth Road stations. Staff working on the track within the worksite at East Didsbury station were not positioned on the same line as the runaway locomotive and consequently no one was injured.

Recommendations **Eight recommendations are made**

RECOMMENDATION

1

Status: In-progress

Operators of locomotives that require the manual operation of a cock to allow such locomotives to be safely dead-hauled in single piped trains, should investigate possible design changes to mitigate the risks associated with the cock not being correctly operated. Design changes should be implemented so far as is reasonably practicable.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION	2	Status: Implemented
EWS should review and modify its procedures as necessary to ensure that when a maintenance action is not carried out at the scheduled time, the vehicle concerned is not returned to traffic and operated as if the maintenance action had taken place.		
Comment		
ORR has reported that EWS has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	6	Status: Implemented
EWS should ensure that the AFT cock is clearly labelled with its name, function and open/closed positions.		
Comment		
ORR has reported that EWS has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotive	Deal, Kent	14:46	29 July 2006	Fatal accident involving a train driver
RAIB Report No:	14/2007	Published:	29 May 2007	

Summary	
At around 14:46 hrs on 29 July 2006 train 6Z25 arrived at signal EBZ41 on the down line between Dover Priory and Deal, near Deal station, Kent. Whilst checking that the brakes of one of the wagons were released the driver elected to enter between that wagon and the wagon behind with the objective of reaching the other side of the train. In doing so the driver came into simultaneous contact with the live conductor rail and the buffer of the wagon and was fatally injured.	
Recommendations	Nine recommendations are made

RECOMMENDATION	2	Status: Implemented
Freight Operators in areas of DC electrification should provide specific training to all drivers and ground staff with the objective of ensuring that they are fully aware of safe working practices when attending trains on lines with conductor rails. This training should also reinforce the message that the conductor rail should always be treated as live within possessions.		
Comment		
ORR has reported that Freight Operators have responded that they have taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 locomotive	Crofton Old Station No.1 Level Crossing, W. Yorks	12:45 & 09:45	1 May 2006 & 18 May 2006	Two near misses
RAIB Report No:	16/2007	Published:	29 May 2007	

Summary

Incident 1: At around 12:45 hrs on 1 May 2006, Class 66 locomotive 66508, running light and forming train 0D52 from Midland Road to Sudforth Lane, passed over Crofton Old Station No.1 level crossing whilst the crossing gates were open to the road. The crossing gates had been open for approximately two minutes prior to the arrival of train 0D52. A car had used the crossing around a minute prior to the train passing over the crossing.

Incident 2: At around 09:45 hrs on 18 May 2006, Class 155 diesel multiple unit (DMU) 155345, forming train 2F65 from Wakefield Kirkgate to Knottingley, passed over Crofton Old Station No.1 level crossing whilst the down line side crossing gate was open to the road. At the time of the train's passage over the crossing, the crossing keeper was attempting to close the gates to the road.

Recommendations Six recommendations are made

RECOMMENDATION

2

Status: Implemented

Network Rail should undertake a risk assessment on all staffed level crossings that have no gate to signal interlocking safeguards to ensure that the risks from human errors are considered and are mitigated so far as is reasonably practicable.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Locomotive 47 811, wagon, No. FRA 613035	Dagenham Dock	12:22	17 July 2006	Fatal accident to Shunter
RAIB Report No:	23/2007	Published:	12 July 2007	

Summary

At 12:22 hrs on 17 July 2006, a 42-year-old shunter, employed by Freightliner Heavy Haul Limited (Freightliner), was crushed between a locomotive and a wagon during a shunting move at Dagenham Dock down yard. There were no immediate witnesses.

Recommendations Seven recommendations are made

RECOMMENDATION

1

Status: Implemented

Freightliner should review the management of its infrastructure to ensure that risk factors identified in the local working instructions are recorded and assessed by trained personnel. The process should include follow-through checks to an agreed timescale to ensure that remedial action has been taken, and should provide a mechanism to elevate the issue to senior managers if compliance is not achieved. The local working arrangements should be changed where necessary.

Comment

ORR has reported that Freightliner has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	4	Status: Implemented
Freightliner should review its methods for checking and enforcing compliance with the Rule Book during shunting activities, in particular those relating to the proximity of staff to moving trains, the control of locomotives and the use of correct radio procedure.		
Comment		
ORR has reported that Freightliner has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	5	Status: Implemented
Freightliner should review and enhance the training given to new staff and ensure that it is overseen by independent assessors.		
Comment		
ORR has reported that Freightliner has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 360 EMU	Manor Park	09:23	19 March 2006	Possession irregularity
RAIB Report No:	26/2007	Published:	25 July 2007	

Summary
At 09:23 hrs on Sunday 19 March 2006, train 1Y06, the 09:02 hrs London Liverpool Street to Ipswich service, struck two wheelbarrows as it approached Manor Park station at over 80 mph under clear signals. The staff on the track with the wheelbarrows had been able to jump clear, but two members of staff were injured.
Recommendations
Three recommendations are made

RECOMMENDATION	1	Status: In-progress
(a) Network Rail should: Review their possession planning principles and formulate criteria for limiting the complexity of work sites within a possession. This is to aid compliance with Rule T3 10.7 which requires that COSSs sign form RT3199 personally;		
(b) Network Rail should: Undertake a review of the risks/benefits associated with long work sites covering different items of work compared to multiple short work sites unless those items of work are less than 300 m apart; and		
(c) Network Rail should: Review, and implement changes as necessary in, procedures to ensure that contractors are aware of major changes to planned possessions and that a record of this communication is maintained.		
Comment		
Network Rail has outlined the actions to be taken in response to the recommendation.		
ORR is seeking further information.		

1

National Network(s)

RECOMMENDATION	3	Status: Implemented
<p>(a) Network Rail should: Review the possession planning system to ensure that any changes in possessions reflect back into the planned work sites that are recorded in the system.</p> <p>(b) Network Rail should: Review the procedures for the storage of archived data, particularly any information associated with an incident which may be required to support a subsequent investigation, whether internally or by a statutory body.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Two self-propelled track maintenance machines	Badminton	22:54	31 October 2006	Collision between two track maintenance machines
RAIB Report No:	30/2007	Published:	22 August 2007	

Summary	
<p>At about 22:54 hrs on Tuesday 31 October 2006 two self-propelled track maintenance machines, a tamper and a ballast regulator, collided near the site of the former station at Badminton, Gloucestershire. The collision occurred on the up line of the railway between Bristol Parkway and Swindon stations, on a section of line that was closed to normal traffic for track renewal work. The tamper was travelling at about 35 mph (56 km/h), and the ballast regulator was stationary. All four people on board the machines, the drivers and two machine operators, were injured, two of them seriously.</p>	
Recommendations	Four recommendations are made

RECOMMENDATION	3	Status: In-progress
<p>RSSB should make a proposal, in accordance with the Railway Group Standards Code, to amend Module T11 of the Rule Book to require that on-track machines are operated in tandem/multiple within possessions and work sites where it is practicable to do so.</p>		
Comment		
<p>RSSB and Network Rail have outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Virgin Cross Country class 221 Super Voyager train	Copmanthorpe	20:56	25 September 2006	Collision between train and car
RAIB Report No:	33/2007		Published:	5 September 2007

Summary

At 20:56 hrs on 25 September 2006, a car passed through the fence at the end of Moor Lane just outside Copmanthorpe, south of York. Moor Lane is the site of a former level crossing, closed in 1982. The car came to rest with its front wheels in the four foot of the nearest railway line, the down Leeds line. It was dark and the weather was drizzly with some fog. At that time, a Virgin Cross Country class 221 Super Voyager train was approaching Copmanthorpe on the down Leeds line travelling towards York at 100 mph (161 km/h). The train was the 14:25 hrs Plymouth to Edinburgh service, reporting number 1S91. The driver of the train sounded the horn and applied the emergency brakes after he first saw the car approximately a quarter of a kilometre ahead of him. However there was not sufficient time to decelerate, and at 20:57 hrs the train struck the car and pushed it along the track, breaking it up in the process. The driver of the car died from his injuries. As parts of the front-half of the car broke up, they passed under the train and caused wheelsets two, three, and four of the leading vehicle to derail. The leading wheelset remained on the track. However, the train remained upright and ran in-line throughout its deceleration; no one on the train was injured. The train came to a stand 907 metres beyond the point of the collision. The train crew performed all necessary train protection duties and the emergency services were informed

Recommendations**Two recommendations are made****RECOMMENDATION****1****Status: In-progress**

Network Rail should ensure that all cul-de-sacs currently leading directly to their railway are or have been assessed in line with the DfT guidance, and that their procedures enforce such assessment for any future changes to the highway infrastructure immediately adjacent to their boundary.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): 2x 455 electric multiple units (EMUs)+ 8 Carriages	Epsom	19:42	12 September 2006	Passenger train derailment
RAIB Report No:	34/2007		Published:	13 September 2007

Summary

A South West Trains service from London Waterloo to Effingham Junction became derailed as it approached Epsom station, Surrey, at 19:42 hrs on Tuesday 12 September 2006. One bogie of the fourth coach of the eight-carriage train derailed towards the left as the train was travelling at about 17 mph (27 km/h). The train came to a stop partly in Epsom station, and the passengers (estimated at between 300 and 400 people) were able to alight onto the platform. There were no injuries, and minor damage to the train and track.

Recommendations

Three recommendations are made

RECOMMENDATION

2

Status: Implemented

Network Rail should revise its instructions to staff to ensure that patrollers and local track managers have clear and specific instruction and guidance on the identification of and response to alignment faults and localised poor rail condition.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

Originally rejected, in further discussions with ORR, NR has taken actions to address the safety issue, ORR are content that the recommendation has been implemented.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Passenger Train	M20 overline bridge, Aylesford	22:55	5 February 2007	Collision between a train and a road vehicle
RAIB Report No:	36/2007		Published:	26 September 2007

Summary

On 5 February 2007 a bridge inspection unit working on the M20 was deployed over a railway bridge between Maidstone Barracks and Aylesford stations. The gantry on the bridge inspection unit was struck by a scheduled passenger train, causing significant damage to the leading carriage and wrecking the gantry. The train driver and the sole passenger were slightly injured. Nobody was on the gantry at the time.

Recommendations

Six recommendations are made

RECOMMENDATION

3

Status: In-progress

InterRoute should review their systems in order to ensure site supervisory competence is effective for the duties required.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotive	Washwood Heath	15:48	8 September 2006	Freight train derailment
RAIB Report No:	39/2007	Published:	21 November 2007	

Summary

Train 4026 was the 11:47 hrs service from Burton to Southampton Docks, operated by EWS. It comprised locomotive 66070 hauling 17 flatbed wagons. At about 15:48 hrs on the 8 September 2006 the train departed from Washwood Heath Up Side sidings. It left the yard along a reception siding from where it was routed onto the Down Goods via the series of four crossovers that link all tracks at the southwest end of Washwood Heath. As the train passed over the crossover between the Down & Up Goods line and the Up Main line the leading bogie of the 13th wagon, 609001, derailed to the left-hand side.

Recommendations Four recommendations are made

RECOMMENDATION

1

Status: Implemented

EWS should complete its programme for installing UIC sprung side bearers in FAA wagons in order to overcome the known deficiencies with the existing arrangement.

Comment

ORR has reported that EWS has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Diesel electric locomotive no. 8113 + test vehicle	Cromore, Northern Ireland	01:00	14 April 2007	Derailment
RAIB Report No:	42/2007	Published:	28 November 2007	

Summary

At about 01:00 hrs on Saturday 14 April 2007, a Northern Ireland Railways (NIR) ultrasonic test train became derailed near Cromore, Antrim, while travelling at about 49 mph (77 km/h). The train consisted of a locomotive and a single ultrasonic test vehicle. All four wheels of the test vehicle were derailed. There was some damage to the track and to the test vehicle. No-one was hurt.

Recommendations Seven recommendations are made

RECOMMENDATION

6

Status: In-progress

Sperry Rail International should revise the vehicle weight information that is marked on the ultrasonic test vehicle and shown in the maintenance documentation to accurately reflect the unladen and laden weights of the vehicle.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 377 EMU	Tinsley Green Junction	09:33	17 March 2007	Near miss involving track worker
RAIB Report No:	43/2007	Published:	18 December 2007	

Summary

This incident occurred at 09:33 hrs on the morning of Saturday 17 March 2007, at Tinsley Green Junction, near Gatwick Airport. The driver of train 1M20, the 08:55 hrs Brighton to Watford Junction service, reported to the signaller that a member of track maintenance staff had dived clear of his train with only seconds to spare. The incident had occurred as train 1M20 was being routed from the up fast line towards the up platform loop via a series of high-speed crossovers.

Recommendations **Eight recommendations are made**

RECOMMENDATION

1

Status: Implemented

Network Rail's IMM (Infrastructure Maintenance Manager) Sussex should identify all welders in the Area who have only limited experience of working in the Red Zone. The IMM should ensure that all such welders that are qualified to act as COSS have the necessary skills, knowledge and experience to set up a safe system of work in the Red Zone.

Comment

ORR has reported that Network Rail has carried out a review in response to this recommendation. Network Rail propose no further action.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

2

Status: In-progress

Network Rail should update the COSS handbook and associated training material with the objective of ensuring that staff that are qualified to act as COSS are fully aware of the hazards associated with working in a Red Zone at locations beyond facing points and can set up appropriate safe systems of work. Included in the revised documentation should be a clear definition of the term 'approaching train'.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

3

Status: In-progress

Network Rail should prohibit lookouts from being required to observe the position of points as a means of determining if an approaching train is routed towards the site of work. Associated rules (eg rule book, module T7) and training documentation should clearly state that when working beyond facing points lookouts should give a warning, and staff move to the position of safety, for all trains approaching those points in the facing direction.

Comment

Network Rail has reported that it has taken actions in response to this recommendation.

ORR is seeking further information.

RECOMMENDATION	4	Status: In-progress
<p>Network Rail should modify its management processes to require that all RT9909 'Record of Site Safety Arrangements and Briefing' forms issued to Controllers of Site Safety contain details of any high speed crossovers and/or points, the direction and speed of associated train movements and a specific warning about the hazards at such locations.</p>		
<p>Comment</p>		
<p>Network Rail has reported that it has taken actions in response to this recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	6	Status: In-progress
<p>Network Rail should implement a process to ensure that any person requesting that a plan be prepared by a Works Scheduler checks that an appropriate safe system of work has been selected and the adequacy of the resulting 'Record of Site Safety Arrangements and Briefing' form. This check should include a review of the accuracy of data contained and completeness of hazard identification.</p>		
<p>Comment</p>		
<p>Network Rail has reported that it has taken actions in response to this recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	7	Status: Implemented
<p>Network Rail should assess the feasibility of configuring the SSOWPS (Safe System of Work Planning System) to automatically check that the work site data entered in the system corresponds with the work site location.</p>		
<p>Comment</p>		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation and has carried it out by alternative means. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

Recommendations made for National Networks in reports published in 2008 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 locomotive	King Edward Bridge, Newcastle	06:40	10 May 2007	Freight train derailment
RAIB Report No:	02/2008		Published:	31 January 2008

Summary	
At 06:40 hrs on 10 May 2007 an empty coal train became derailed whilst passing through King Edward Bridge South Junction on the approach to Newcastle station.	
Recommendations	Four recommendations are made
RECOMMENDATION	2 Status: In-progress
Network Rail should investigate the capability for Wheelchex data to be used to identify out-of-balance lateral wheel loading on vehicles and if practicable to instigate a warning system using Wheelchex to minimise the risk to the network.	
Comment	
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.	

RECOMMENDATION	3 Status: In-progress
Network Rail should review and amend the design and maintenance of the layout of the up main line to up Carlisle line crossover at King Edward Bridge South Junction or implement any necessary measures to ensure that it does not become out of specification within the monitoring interval.	
Comment	
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.	

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 165 DMU	Ruscombe Junction	11:26	29 April 2007	Staff hit by train (Fatality)
RAIB Report No:	04/2008	Published:	28 February 2008	

Summary

At 11:26 hrs on Sunday 29 April 2007, train 5Z71, the 10:45 hrs empty coaching stock train from Old Oak Common depot to Reading depot, struck and fatally injured a track welder at Ruscombe Junction, 5 miles (8 km) west of Maidenhead station. The accident occurred as train 5Z71 was being routed from the down main line towards the down relief line via two high speed crossovers.

Recommendations **Seven recommendations are made**

RECOMMENDATION**1****Status: In-progress**

Network Rail should update the COSS handbook and associated training material with the objective of ensuring that staff that are qualified to act as COSS are fully aware of the hazards associated with working in a Red Zone at locations beyond facing points and can set up appropriate safe systems of work. Included in the revised documentation should be a clear definition of the term 'approaching train'.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**2****Status: In-progress**

Network Rail, in consultation with RSSB, should carry out human factors research into the impact of peer pressure, group communications and dynamics on safety decision making in small COSS led work teams. This should include a consideration of how teams are constituted and how a relatively inexperienced COSS can deliver authority, compliant behaviour, leadership and a challenge function. The findings of this research should be used to inform a review of training and management systems.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**4****Status: In-progress**

Associated rules (eg Rule Book, module T7) and training documentation should clearly state that when working beyond facing points lookouts should give a warning, and staff move to the position of safety, for all trains approaching those points in the facing direction.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**5****Status: In-progress**

Network Rail should implement a national plan to reduce the proportion of weld repairs at points and crossovers undertaken in Red Zones so far as is reasonably practicable.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

1 National Network(s)

RECOMMENDATION	6	Status: In-progress
Network Rail should introduce a procedure that mandates the briefing of Safety Bulletins to its staff within specified timescales.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Kemble	22:14	15 January 2007	Passenger train derailment
RAIB Report No:	07/2008	Published:	27 March 2008	

Summary
On 15 January 2007, at approximately 22:14 hrs, the 21:52 hrs train from Swindon to Cheltenham Spa, consisting of a two-car diesel multiple unit (DMU), was travelling at 51 mph (82 km/h) when it struck debris from a collapsed wall following a landslip in the cutting just south of Kemble tunnel. The leading bogie of the train was derailed and the train was brought to a halt at the tunnel mouth. There were no injuries to passengers or crew. Evacuation of passengers from the derailed train was completed by 23:40 hrs. The line was closed until early on 18 January 2007 to enable repairs to be undertaken to the track and the cutting.
Recommendations
Two recommendations are made

RECOMMENDATION	1	Status: In-progress
Network Rail should identify, through the examination process, any other wall on the network which has a similar construction to the block wall at Kemble, and is also a free standing wall in front of a natural slope. Network Rail should consider the stability of such walls against any likely loading, taking due account of the blockage of weep holes and other drainage problems. Network Rail should instigate remedial action as appropriate.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	2	Status: In-progress
Network Rail should undertake a review of the classification of walls on their infrastructure so that the purpose of each wall is correctly identified in the records and notified to structures examiners. Network Rail should inform structures examiners about any changes in the classification of structures that they are to examine in the current programme.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 330 DMU	Level Crossing XL202, Northern Ireland	15:22	2 August 2007	Level crossing fatality
RAIB Report No:	10/2008	Published:	24 April 2008	

Summary

At approximately 15:22 hrs on 2 August 2007, train B413, the 15:05 hrs Northern Ireland Railways (NIR) service from Londonderry to Belfast Great Victoria Street, collided with a tractor on User Worked Crossing XL202, located approximately 700 m south-west of the disused station at Limavady Junction.

Recommendations Six recommendations are made

RECOMMENDATION**3****Status: Implemented**

NIR should review its crossing risk assessment model in the light of this investigation report to establish whether the model's accuracy could be improved by reclassifying road crossing user types, giving greater significance to peak usage of the crossing, reconsidering how animal movements are treated in the model and considering the relative importance of factors affecting visibility and audibility of approaching trains for different types of crossing user. Consideration should also be given to the effectiveness of mitigation provided (eg sounding of train horns at whistle boards).

Comment

DRDNI has reported that Northern Ireland Railways (NIR) has reported that it has taken actions in response to this recommendation.

DRDNI proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**5****Status: In-progress**

NIR should work with DRDNI to add a template to the Private Crossings (Signs and Barriers) Regulations (Northern Ireland) 2007 that is appropriate to the circumstances at crossing XL202 and includes a permitted variant to allow the telephone number of the crossing operator to be added.

Comment

NIR has carried out a review in response to this recommendation. NIR propose no further action.

DRDNI is seeking further information.

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 170 DMU (Turbostar)	Croxton AHB level crossing	06:03	12 September 2006	Passenger train derailment
RAIB Report No:	11/2008	Published:	13 May 2008	

Summary

At 06:03 hrs on 12 September 2006 the leading bogie of the 05:33 hrs train from Norwich to Cambridge, running number 1K55, derailed at 87 mph (140 km/h); the train ran for 463 m before the driver brought it to a stop. There were no casualties.

Recommendations **Eleven recommendations are made**

RECOMMENDATION

1

Status: In-progress

Network Rail should assess the sleeper spacings and panel length of all HoldFast crossings until the rate of shrinkage is understood, and take such steps as are necessary so that no panel end is left unsupported by a sleeper. At the same time they should ensure that legged base plates are installed as specified by HoldFast Level Crossings Ltd.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

3

Status: In-progress

HoldFast Level Crossings Ltd. should define the performance limits of their level crossing panels in consideration of the loads and layouts to which they are exposed. It is suggested that HoldFast seek assistance from Rosehill Polymers and Network Rail in this task.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

4

Status: In-progress

Network Rail should arrange a complete generic risk assessment of the HoldFast level crossing system by an appropriately technically qualified person, once the service environment of level crossings and the limits of performance of panels have been assessed. This should involve Holdfast Level Crossings Ltd. and Rosehill Polymers Ltd. appropriately in accordance with Network Rail's Engineering Safety Management System definition of 'system supplier'. This assessment should review the risks associated with the design, manufacture, installation and maintenance of the system, and should be supported by a wide review of in-service experience. The principles of Network Rail's Engineering Safety Management System should be adopted for guidance. The generic assessment should then be used to develop a site-specific assessment methodology for all locations where HoldFast crossings are to be used.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

5

Status: In-progress

Network Rail should update specification NR/SP/TRK/040 to include any revisions or clarifications of load parameters and assurance measures necessary to better define the performance requirements of level crossing panel systems.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION	6	Status: In-progress
Network Rail should review how it controls any application and design change associated with level crossing panel systems, including working with suppliers, manufacturers and front-line staff.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	11	Status: In-progress
HoldFast Level Crossings Ltd and Rosehill Polymers Ltd should put in place processes so that any lessons learned during the addressing of the recommendations of this report to other users of their level crossing surface system.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotive	Camden Road Tunnel	22:40	19 July 2007	Runaway incident
RAIB Report No:	12/2008	Published:	22 May 2008	

Summary
When EWS train 7M59, the 20:10 hrs from Angerstein Wharf to London St Pancras Churchyard Sidings, started from signal WH204 at the south end of Camden Road Tunnel, the screw coupling broke between the second and third wagons from the back of the train. The driver examined the rear of the front portion of the train and concluded that while the train was stopped at signal WH204, vandals had opened the brake pipe cock and main reservoir cock and had removed the tail lamp. He did not realise that the train had divided and did not see the two detached wagons which were in the tunnel. After the front portion had worked into Churchyard Sidings, the two detached wagons ran away southwards for 200 to 300 metres, reversed direction and came to rest about 140 metres from where the runaway started.
Recommendations
Eight recommendations are made

RECOMMENDATION	2	Status: Implemented
Network Rail should review the competence management system applied to signallers with the aim of improving the way that signallers' actions in response to accidents and incidents are practised and assessed.		
Comment		
ORR has reported that Network Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	7	Status: Implemented
EWS should introduce a system to analyse coupling failures for individual types of coupling and implement any necessary measures to reduce the number of occurrences of train divisions for specific coupling types.		
Comment		
ORR has reported that EWS has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 locomotive	Duddeston Junction	02:20	10 August 2007	Freight train derailment
RAIB Report No:	16/2008	Published:	31 July 2008	

Summary

At around 02:20 hrs on Friday 10 August 2007, two wagons forming part of train 4O84, travelling from Freightliner's Lawley Street Terminal to the Isle of Grain, became derailed just outside the terminal.

Recommendations

Eight recommendations are made

RECOMMENDATION

1

Status: In-progress

Freightliner should investigate the possibility of modifying current, or developing new, software, to give warning if containers are loaded onto a wagon in a way that contravenes company loads standards with regard to the distribution of load. Appropriate solutions should be implemented.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

2

Status: In-progress

Freightliner should take steps, including re-briefing and assessment, to ensure that loading staff clearly understand and can apply the company's rules on permissible loading of container wagons. Freightliner should monitor compliance with their loading standards to provide assurance that such rules are being complied with.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

3

Status: In-progress

Freightliner should re-examine how they present information on permissible container wagon loads. They should aim to present the information in a clear unambiguous way that suits the needs of the user of the information, be they terminal staff, Freightliner management, wagon manufacturers or approval bodies. This will involve the modification of MIE 0767 and the possibility of generating other related documents suited to the particular needs of the recipients.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

4

Status: In-progress

Network Rail Vehicle Conformance Group should put in place procedures so that when considering derailment resistance during the approvals process of wagons, they determine the full range of loads and their distributions that can legitimately be encountered in service, and consider the sensitivity of the wagon to likely longitudinal and lateral offsets in loading. They should take these factors into account when deciding what testing and calculations need to be undertaken to demonstrate compliance with applicable derailment resistance standards.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION	5	Status: In-progress
<p>Freightliner should put in place procedures so that when procuring wagons, they unambiguously define to manufacturers and approvals bodies the full range of loads and distribution of loads that can reasonably be expected to be encountered by the wagon in service.</p>		
Comment		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p> <p>The RAIB has expressed its concern to ORR that the risk identified by the investigation has yet to be addressed. The same risk was a factor the derailment at Foreign Ore Branch Junction in 2008 (ref. no. 10/2009).</p> <p>The ORR has advised RAIB that it recently held a meeting with Freightliner to review issues associated with offset loads (this is also relevant to Foreign Ore Branch Junction recommendation 9). RAIB is awaiting further information on the outcome of these discussions.</p>		
RECOMMENDATION	6	Status: In-progress
<p>Freightliner should arrange that the FEA-B wagon wheel unloading performance is re-evaluated taking into account the full range of load conditions they permit (currently defined in MIE 0767) to confirm compliance with GM/RT 2141. This should consider sensitivity to longitudinal and lateral offsets in load that can reasonably be encountered in service.</p>		
Comment		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	7	Status: In-progress
<p>Freightliner should act upon and close NIR 2084.</p>		
Comment		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	8	Status: In-progress
<p>Network Rail should amend NR/SP/TRK/001 section 11.4.2 to make clear into which regime, areas that are not covered by measurement vehicles but are operated at less than 20 mph (32 km/h), fall. They should also clarify under what conditions it is mandated for the TME to maintain a list of areas of track not covered by measurement vehicles.</p>		
Comment		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Barrow upon Soar	06:32	1 February 2008	Passenger train derailment
RAIB Report No:	18/2008	Published:	25 September 2008	

Summary

At 06:32 hrs on 1 February 2008 train 1L03, the 06:13 hrs Nottingham to Norwich train, travelling at 65 mph (104 km/h) collided with debris from a collapsed footbridge at Barrow upon Soar, Leicestershire.

Recommendations Four recommendations are made

RECOMMENDATION

3

Status: Implemented

RSSB should consider the practicability of design elements on the bogie that limit the degree of deviation from the track following derailments and, where appropriate, proposals should be made to the relevant bodies to make changes to appropriate standards.

Comment ▲

RSSB has assessed the practicality of the design elements and concluded that the existing risk associated with train behaviour when derailed is as low as reasonably practicable and that no change to the standards should be recommended.

ORR has noted the work that was undertaken by RSSB, and the subsequent endorsement of the conclusions of that work by the RSSC (Rolling Stock Standards Committee) to consider the potential impact of design elements. RSSB considered the current risk situation to be 'as low as is reasonably practicable' (ALARP), based upon the limited space available in which to mount any restraint and the likely strength of any such restraint to constrain the level of forces.

The RAIB considers that it appears that the assessment that was carried out in response to this recommendation over-estimated the technical difficulty of implementing such a measure in future builds of rolling stock. The RAIB continues to feel that the inclusion of such measures in future rolling stock design standards has potential to improve safety at a reasonable cost. However, RAIB accepts that this issue may well need to be discussed in the context of evolving European standards.

RECOMMENDATION

4

Status: Non-implementation

Network Rail should review the arrangements for ensuring that their staff and contractors understand the differences between the purposes of T2 and T12 protections and the applicability of each.

Comment

Network Rail has carried out a review in response to this recommendation. Network Rail propose no further action.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 455 EMU	Leatherhead	09:55	29 August 2007	Staff hit by train (Injury/near miss)
RAIB Report No:	19/2008	Published:	23 October 2008	

Summary

At 09:55 hrs on 29 August 2007 a member of railway staff, engaged in routine track inspection work, was struck by a passenger train near Leatherhead station, Surrey, and seriously injured. The injured person was given first-aid by colleagues, treated on site by paramedics and later removed to hospital by air ambulance.

Recommendations Six recommendations are made

RECOMMENDATION**2****Status: In-progress**

Network Rail should review the inspection arrangements for S&C throughout its network, especially at junctions where sighting is restricted by curvature or train speeds are high, so that the staff carrying out the inspection are adequately protected, considering for example:

- S&C inspection in non traffic hours, or other green zone arrangements;
- provision of suitable lighting to enable inspection in green zone in darkness; and
- train operated warning systems.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**3****Status: In-progress**

Network Rail should review the arrangements for protection of patrolling staff and others whose work involves moving along the line, throughout its network so that adequate warning time to move to a position of safety is always available.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**4****Status: In-progress**

Network Rail should review its arrangements for the assessment and monitoring of staff who have to set up safe systems of work, so that there is regular confirmation that they are making appropriate arrangements, particularly for work which moves along the line.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**5****Status: In-progress**

Network Rail should review the implementation of mechanised inspection techniques for plain line, on routes laid with continuous welded rail with the objective of ending the practice of foot patrolling under traffic.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

1

National Network(s)

RECOMMENDATION	6	Status: In-progress
<p>Network Rail should revise the standards and procedures for the inspection of S&C on the routes referred to in Recommendation 5, so that:</p> <ul style="list-style-type: none"> • S&C inspections are carried out by specialist staff who are appropriately trained; and • S&C inspection takes place in green zone conditions. 		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 390 EMU 'Pendolino'	Grayrigg	20:12	23 February 2007	Passenger train derailment
RAIB Report No:	20/2008		Published:	23 October 2008

Summary

On 23 February 2007 at 20:12 hrs, an express passenger train derailed at facing points, known as Lambrigg 2B points, located near Grayrigg in Cumbria. The train, reporting number 1S83, was the 17:15 hrs service from London Euston to Glasgow, operated by West Coast Trains Ltd, part of Virgin Rail Group (referred to as 'Virgin Trains' in the remainder of this report), and was travelling at 95 mph (153 km/h). All nine vehicles of the Class 390 Pendolino unit derailed. Eight of the vehicles subsequently fell down an embankment and five turned onto their sides. The train was carrying four crew and at least 105 passengers at the time of the accident. One passenger was fatally injured; 28 passengers, the train driver and one other crew member received serious injuries and 58 passengers received minor injuries. The remaining 18 passengers and two crew members were not physically injured in the derailment. The railway line through the area remained closed until 12 March 2007. Initially this was for the rescue of the injured, then solely for accident investigation, then (in parallel) for accident investigation, vehicle recovery and repairs to the infrastructure, and finally to complete the repairs to the infrastructure.

Recommendations**Twenty-nine recommendations are made****RECOMMENDATION****1****Status: In-progress**

The intention of this recommendation is that Network Rail should modify the design of the non-adjustable stretcher bar assembly, including its joints, so that it can withstand normal operational loads (and credible faults) with a safety margin and without excessive reliance on human intervention.

Network Rail should review its S&C non-adjustable stretcher bar assembly design, so as to understand the relationships between the design, loading, usage, and the inspection and maintenance regimes, and implement any appropriate modifications to the design or the regimes.

The following elements (A to G) should be considered to achieve this:

- A. Define the system level functional and safety requirements for S&C with non-adjustable stretcher bars.
- B. Determine all of the functions that the non-adjustable stretcher bar assembly is required to deliver for the functional and safety performance of the S&C system, including from traffic, fastenings and operating/motor forces.
- C. Determine a set of load cases for the non-adjustable stretcher bar assembly, including its rail fastening arrangement. This should include forces which it experiences during both normal and reasonably foreseeable fault conditions. All foreseeable combinations of normal and fault conditions that could exist within the stretcher bar assembly itself, other components and the S&C system, should be considered. This should include, but not be limited to:
 - a. configurations of S&C on which it is fitted;
 - b. traffic usage patterns and track geometries;
 - c. manufacturing and installation variations.

The load cases should be established and validated by field measurements, supported by appropriate other testing, modelling and/or calculation.
- D. Assess the performance of the current non-adjustable stretcher bar assembly against the forces that arise from the load cases.
- E. If justified by the outcomes of the previous work, modify the current design of the non-adjustable stretcher bar assembly to include an appropriate factor of safety. The revised design should be risk assessed, taking into account the quality and reliability of human intervention in inspection and maintenance (refer also to Recommendation 13). Should measures such as component redundancy or other defence barriers be necessary to achieve the required integrity, the reliability of each redundant element and defence barrier should itself be assessed using the above process.
- F. Modify the current installation, inspection and maintenance regimes against the requirements determined in E so that they are appropriately risk based for the new design (refer also to Recommendation 13).
- G. Introduce processes to implement the modified design and modified inspection and maintenance regimes and any associated mitigation measures where justified.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

1 National Network(s)

RECOMMENDATION	2	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should implement processes to gather and analyse data, both in the short term and thereafter, that will enable it to identify and monitor accident precursor events in its S&C. This information can then be used to identify potential problems before they can lead to catastrophic failure, and also to inform the development of process safety indicators (see Recommendation 14).</i></p> <p>Network Rail should implement processes to:</p> <ol style="list-style-type: none"> capture, and record on a single national database, data about component failures, and interventions made during maintenance and inspection activities, for each set of S&C; use the data from a) above to monitor failure and intervention rates locally and nationally in the behaviour of S&C components; identify precursor faults that might lead to more serious failures; and identify those precursor faults where the failure and intervention rates indicate a need to reduce the risk of catastrophic failure. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	3	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should implement the measures it identifies from Recommendations 2.</i></p> <p>Network Rail should introduce processes to implement any design modifications arising from Recommendation 2 using the principles outlined in Recommendation 1.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	4	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should move to a riskbased regime for the maintenance and inspection of S&C.</i></p> <p>Network Rail should introduce processes that require the adoption of a structured risk based approach when reviewing and enhancing its standards for the inspection and maintenance of all existing types of S&C.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	5	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should, as soon as possible, provide its front line staff with clear guidance on when a defect, fault or failure requires investigating, and the scope of investigation required.</i></p> <p>Network Rail should include in maintenance standards and instructions:</p> <ul style="list-style-type: none"> the circumstances under which an investigation of a defect, fault or failure to S&C systems as a whole or its sub-components is required; and definition of the scope of the investigation and other immediate actions to be taken (eg temporary speed restrictions, special monitoring) for each situation. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	6	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should be able to systematically identify, and rectify, any potential or actual incidence of flange-back contact.</i></p> <p>Network Rail should review its processes for S&C examination so that the following are included:</p> <ol style="list-style-type: none"> examination for, and reporting of, signs of flange-back contact; and measuring, recording and reporting gauge, free wheel clearance and residual switch opening dimensions, at frequencies commensurate with adequate risk control. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	7	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should provide its front line staff with adequate information on the correct installation, inspection and maintenance of fasteners associated with non-adjustable stretcher bars.</i></p> <p>Network Rail should modify its maintenance instructions to define:</p> <ul style="list-style-type: none"> how staff should initially fit and tighten non-adjustable stretcher bar fasteners; how staff should inspect and maintain the fasteners if necessary during subsequent visits, including practical instructions to achieve any required torque; when a fastener is considered to be loose taking into account the nut rotation required to achieve the required preload; how staff should act in the event of a fastener being identified as loose; how staff should record actions taken; and how staff should carry out any other actions identified from Recommendation 4. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	8	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should provide its front line staff with clear information on permitted residual switch opening dimensions.</i></p> <p>Network Rail should revise its maintenance instructions to clearly specify the value (or range of values) required for residual switch openings, particularly with reference to the maximum permissible value (or range of values) and the frequency at which it must be checked.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

1

National Network(s)

RECOMMENDATION	9	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should provide its front line signalling maintenance staff with all the information that they need to carry out their work, including secondary documents referred from principal documents, and that its systems provide for checking and recording the actions taken. The information from this system should be readily accessible and usable on or off site.</i></p> <p>Network Rail should review management systems and associated documentation covering the maintenance of S&C systems so that signalling maintenance staff:</p> <ol style="list-style-type: none"> have ready access to all relevant documentation on and off site; are reminded on site of all the required maintenance actions; positively record that each required maintenance action has been carried out; and are subject to regular supervisory checks to verify that actions that are required to be taken have been carried out to the required quality. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	10	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should improve the quality of the existing basic visual inspections. Longer term issues concerning track inspection are dealt with under Recommendation 19.</i></p> <p>Network Rail should review and amend its processes for basic visual track inspection so that the issues identified in this report are addressed. To achieve this Network Rail should consider issuing modified instructions to define:</p> <ol style="list-style-type: none"> the contents of task instructions issued to staff undertaking basic visual inspections; the nature of defects that can occur and how to detect those that are difficult to readily observe; job cards to advise the start and finish locations and the direction of the inspection for every occasion; the information supplied to a patroller before an inspection in terms of clearly-presented intelligence on previously-reported defects; the scope of information that is to be recorded during an inspection (including definition of the need to record or comment on previously-reported defects); <p>Recommendations: Matters observed in the investigation:</p> <ol style="list-style-type: none"> the requirement to make positive statements about areas of the inspection where no defects have been found; the checks for completeness that should be made within the track section manager's office, including verification that every inspection has been carried out; the analysis and supervision that should be undertaken to confirm that inspections are being conscientiously completed; and a suitable level of continuity that can be achieved by identifying individual patrollers with individual sections. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	11	Status: In-progress
<p><i>The intention of this recommendation is to ensure that when a supervisory and a basic visual inspection are combined, both are fully and correctly delivered, and recorded.</i></p> <p>Network Rail should modify its processes to specify the following safeguards when a supervisor's visual track inspection is combined with a basic visual inspection:</p> <ol style="list-style-type: none"> all the paperwork relevant to the basic visual inspection (see Recommendation 10) is supplied to the supervisor; and an assurance check is carried out by a person other than the relevant supervisor to confirm that both inspections have been completed and recorded appropriately. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	12	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should address the competence and management issues relating to the inspection and maintenance of S&C that have been demonstrated in this report.</i></p> <p>Network Rail should review its processes for practical training, assessment competence assurance for those undertaking S&C inspection and maintenance against current UK rail industry best practice (eg ORR's publication 'Developing and Maintaining Staff Competence'), and make relevant changes so that the requirements arising from Recommendations 6, 7, 8, 9, 10 and 11, as appropriate, and those from the more general observation about competence in this report, can be delivered.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	13	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should establish whether it is practicable, in human factors terms, for the inspection and maintenance processes to identify and rectify all defects to an adequate and consistent standard, and revise the design of S&C to allow for any identified impracticability or variability in those activities.</i></p> <p>Network Rail should conduct a review, focused on human factors, to develop an accurate understanding of the practicability of, and variability in, the performance and outcome of inspection and maintenance so that any issues identified can be taken into account in the design of S&C systems and the associated inspection and maintenance specification. This activity is integral to Recommendations 1 and 10, and a precursor to Recommendation 19.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	14	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should have adequate monitoring of S&C failure precursors.</i></p> <p>Network Rail should review and improve its management arrangements for monitoring performance in relation to the inspection and maintenance of S&C assets, taking account of the guidance contained in HS(G) 254, 'Developing process safety indicators' by introducing an suitable 'leading' and 'lagging' performance indicators. The indicators should encompass measures of the reliability of both maintenance and inspection activities and the performance and condition of key components.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

1 National Network(s)

RECOMMENDATION	15	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail's compliance and assurance systems should mandate site checks of its S&C asset so that it is independently aware of the actual state of its assets on the ground, any developing trends in its asset performance (see Recommendation 2), and their relationship to its records from inspections.</i></p> <p>Network Rail should extend its compliance and assurance processes to include independent end product checks on a sample of its S&C asset to:</p> <ul style="list-style-type: none"> confirm that its inspections and work database reflect the physical state of its assets; confirm that the asset is compliant with appropriate standards; confirm that the actions identified in Recommendations 1 to 3 are, in fact, delivering an improvement in the performance of S&C assets; and observe for defects or problems that, although the asset and systems may comply with the appropriate standards, may effect the safety of the line. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	16	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should specify adequate opportunities for inspection (and also for maintenance, although recognising that lack of maintenance opportunities was not an issue in the Grayrigg derailment) activities when developing infrastructure enhancement projects.</i></p> <p>Network Rail should include within its infrastructure enhancement project processes an assessment of the impact of any project on the inspection and maintenance of the assets at a stage of the project which allows identification and implementation of suitable measures before commissioning.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	17	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should review whether there is currently adequate access for inspection on its main-line routes.</i></p> <p>Network Rail should review and, if necessary, revise its access arrangements and plans (including Rules of the Route) for its main-line routes. This should be done to provide for the needs of maintenance and inspection of existing infrastructure, given current and planned traffic levels.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	18	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should review the interfaces in its headquarters' engineering department concerning S&C, with particular reference to track and signalling engineering.</i></p> <p>Network Rail should review and, if necessary, revise its management organisation to provide effective stewardship of S&C assets. The review should include consideration of the creation of a single professional department (design authority) responsible to the chief engineer for all aspects of S&C, including specifying design, procurement, installation, set-up, commissioning, inspection, maintenance and performance.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	19	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should review its track inspection requirements so that best use is made of new technology for plain line and S&C inspections.</i></p>		
<p>Network Rail should re-assess the differing requirements of plain line and S&C track inspections with regard to:</p> <ul style="list-style-type: none"> • the amount that is appropriate to be done by human intervention, and the amount by automated data capture, for both types of track; • the different relative frequencies that may be appropriate for both types of track; and • what protection arrangements should be provided. 		
<p>Consideration should be given to separate processes for plain line and S&C inspections to recognise the different requirements of each.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	20	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should carry out its S&C engineering safety management in line with UK railway industry documented best practice.</i></p>		
<p>Network Rail should review its S&C engineering safety management arrangements with reference to current UK rail industry best practice (eg the 'Yellow Book') and address any deficiencies identified.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	24	Status: In-progress
<p><i>The intention of this recommendation is to minimise the risk of the reading light panels in a Pendolino train becoming detached in the event of an accident.</i></p>		
<p>Virgin Trains and Angel Trains should review the mounting of the reading light panels on the Class 390 Pendolinos and take steps to minimise occupant injury from failure of the panel retention system.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		

1 National Network(s)

RECOMMENDATION	25	Status: In-progress
<p><i>The intention of this recommendation is that general safety lessons regarding rail vehicle crashworthiness emerging from the Grayrigg accident are considered and, where appropriate, research is undertaken to assess the practicability of making improvements. If suitable improvements are found, proposals should be made for changes to crashworthiness standards.</i></p> <p>RSSB should:</p> <ol style="list-style-type: none"> Identify any gaps in industry knowledge about vehicle dynamic behaviour in derailments (for example the forces acting on inter-vehicle couplers and bogie retention systems) and where appropriate, undertake research to investigate improvements in vehicle performance. Where appropriate, RSSB should make a proposal in accordance with Railway Group Standards code to change relevant design standards. Investigate and, where practicable, make a proposal in accordance with Railway Group Standards code to introduce specifications for roll-over strength and penetration resistance of rail vehicle bodysHELLS in design standards to ensure consistency of performance in accidents across all future fleets; Undertake research into the injury mechanisms at Grayrigg to identify means of improving occupant survivability in future rail vehicle designs. Where appropriate, RSSB should make a proposal in accordance with Railway Group Standards code to change relevant design standards; Review and revise, if necessary, its past research into seat belts in rail vehicles in the light of the findings from the Grayrigg derailment, taking into account foreseeable changes to vehicle behaviour in future accidents, in order to check whether the conclusions reached therein remain valid; and Confirm and publish the results of its cost benefit analysis as to the reasonable practicability of fitting seat belts to passenger trains. If the analysis shows that fitting seat belts is other than grossly disproportionate to the risks involved, further investigate how to take the issue forward. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	28	Status: In-progress
<p><i>The intention of this recommendation is to improve communications between rescue organisations after an accident.</i></p> <p>The Ministry of Defence should equip the Royal Air Force and Royal Navy search and rescue fleet of helicopters with radio communication equipment that allows direct contact with civil emergency services.</p>		
Comment		
No further information provided by the MoD during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	29	Status: In-progress
<p><i>The intention of this recommendation is to identify possible links between working hours and performance, and to implement steps that can be taken to reduce any resultant risk.</i></p> <ol style="list-style-type: none"> Network Rail should carry out research to establish if there is a link between working long hours over extended periods, including the number and distribution of rest days, and the propensity for human errors during safety critical tasks. The study should include, but not be limited to, those staff who have ordinary office-based duties interspersed with safety critical tasks, such as inspections. The output of the research should be a set of threshold levels of hours for differing roles. Using the output of the research, Network Rail should establish procedures to deliver compliance with the thresholds identified. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 165 DMU	Reading Station	04:53	29 November 2007	Staff hit by train (Fatality)
RAIB Report No:	21/2008	Published:	28 October 2008	

Summary

At 04:53 hrs on 29 November 2007, a track worker was struck and killed by a train while walking on the line east of Reading station. He was on site to remove detonator protection from the up and down relief lines following a T3 possession.

Recommendations Five recommendations are made

RECOMMENDATION**3****Status: In-progress**

Network Rail should look critically at the possession management process to reduce the need for staff to be on the track for the purpose of taking or giving back a possession.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**4****Status: In-progress**

Network Rail should introduce a structured approach to the monitoring of compliance with Network Rail's standard maintenance procedure NR/PRC/MTC/0117 'Planned general safety inspections', and incorporate in this the means to assess the workload of those tasked with undertaking these inspections.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION**5****Status: In-progress**

Network Rail should, at those locations where T3 protection is regularly placed, introduce a system to physically mark the location of possession limit boards on the track to assist staff in positioning and checking the position of equipment, or consider installing a semi-permanent possession limit board system.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): 2x Class 158 DMU	Ty Mawr	12:57	29 August 2007	Unauthorised train movement
RAIB Report No:	22/2008	Published:	30 October 2008	

Summary

At around 10:50 hrs on 29 August 2007, an emergency speed restriction (ESR) of 20 mph (32 km/h) was imposed between Newtown and Caersws on the Shrewsbury to Machynlleth line close to Ty Mawr Farm User Worked Crossing (UWC) because of two defects in a length of rail. The signaller at Machynlleth was responsible for advising drivers of the ESR. At around 12:35 hrs, the signaller contacted the driver of train 1G71, the 11:27 hrs Aberystwyth to Birmingham (New Street) operated by Arriva Trains Wales (ATW), at Talerddig and advised him of the ESR approximately 10 miles away at Ty Mawr. Train 1G71 left Talerddig and, after making a scheduled station stop at Caersws, approached Ty Mawr at a speed of 75 mph (120 km/h). The driver reduced speed to 58 mph (93 km/h) as he ran through the ESR.

Recommendations **Seven recommendations are made**

RECOMMENDATION

1

Status: Implemented

The RSSB should, in consultation with Network Rail and representatives from the train operators, develop and implement a method for formally dictating and recording communication between signallers and drivers to be used when it is necessary for a signaller to warn drivers of a hazard ahead that requires reduction in speed, and no physical warning of the speed restriction is present locally. Consideration should be given as to whether the chosen means could be designed in such a way as to enable it to be used as an effective visual reminder to the driver of the location of the hazard and the speed restriction applied.

Comment

ORR has reported that RSSB has outlined the actions to be taken in response to the recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

2

Status: Implemented

Network Rail should:

- a. use the circumstances of the incident at Ty Mawr to re-brief the requirements of 'Interpretation of Apply 20 mph ESR' (Appendix D, Page 79) in Standard NR/SP/TRK/001, 'Inspection and Maintenance of Permanent Way'; and
- b. within one year of the briefing taking place, conduct an audit of ESRs imposed in the intervening period, to identify the number of occasions when the duration of an ESR has exceeded two hours without emergency equipment being erected, and take action, as appropriate, to address any deficiencies found.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	3	Status: Implemented
<p>Network Rail should review the range of speed restrictions and the timings for trains between Talerddig and Caersws to determine whether rationalisation of the number of such restrictions and/or relaxation of timings could enhance the driveability of the route and reduce the potential for distraction and misunderstanding by train drivers under degraded operating conditions.</p>		
<p>Comment</p>		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: In-progress
<p>Network Rail should:</p> <ol style="list-style-type: none"> review the circumstances of this incident and identify other parts of the network where the length of signal sections results in the potential for a significant period of time to elapse between a driver being informed of an ESR and the ESR being encountered; and for each location identified, include within the relevant Sectional Appendix any additional locations where drivers should be reminded of the presence of an ESR ahead and how and by whom that reminder will be administered. <p>The purpose of this recommendation is to identify those areas of the national network where there might be significant elapsed time between a warning of an ESR being given and it being encountered and to provide further warnings to drivers, where practical.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	6	Status: In-progress
<p>Network Rail should modify procedure NR/PRC/MTC/MG0110 to list the information that the signaller is required to be told when an emergency speed restriction is to be imposed as defined in section 9.1 of module SP of the rule book, and clearly identify who is responsible for providing each item of information.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	7	Status: In-progress
<p>The Association of Train Operating Companies should develop guidance for train operating companies on 'for-cause' drugs and alcohol testing with the objective of achieving greater consistency in its application. The guidance should address the issue of who should have the authority to permit a driver to continue driving after an incident. It should also consider different scenarios where drugs and alcohol testing might be required, including how to deal with a situation where an incident requires a member of staff to be screened as soon as reasonably practicable and that member of staff is remote from a location where such testing can easily be administered. The purpose of this recommendation is not to conduct a comprehensive review of drugs and alcohol policy or practice, but rather to offer guidance on the application of existing drugs and alcohol policy in order that a more consistent approach by train operating companies can be achieved.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 43 HST Power car & Class 165 DMU	Didcot North Junction	16:38	22 August 2007	Signal Passed at Danger
RAIB Report No:	23/2008		Published:	20 November 2008

Summary

At 16:38 hrs on 22 August 2007 train 1W47, the 15:51 hrs First Great Western passenger service from London Paddington to Worcester Shrub Hill, formed by an HST set, passed SB2209 signal at danger on the Down Avoiding line to the north of Didcot Parkway station. This signal is located on the approach to Didcot North junction and is fitted with TPWS equipment that is designed to mitigate the consequences of signals being passed at danger.

At the same time train 2P66, the 16:21 hrs First Great Western passenger service from Oxford to London Paddington, was just passing clear of the junction after being routed from the Up Oxford line towards Didcot Parkway station. Despite the correct operation of the TPWS equipment, train 1W47 did not come to a stand until it had run onto the Up Oxford line, foul of the junction. No injuries were incurred by any of the staff or passengers concerned. No damage was sustained by either train. However, had the circumstances been slightly different this event could have resulted in the two trains colliding.

Recommendations **Nine recommendations are made**

RECOMMENDATION **2** **Status: In-progress**

Network Rail should, in consultation with train operators, review its existing risk assessments for all existing junction signals in order to verify that:

- the actual braking performance of trains signalled by that route has been correctly taken into account; and
- proper consideration has been given to any reasonably practicable measures identified.

When addressing this recommendation Network Rail should ensure that risk assessors are competent and have access to accurate input data.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION **3** **Status: Non-implementation**

In support of Network Rail's assessment of risk at junction signals (see Recommendation 2), RSSB should make a 'proposal', in accordance with the Railway Group Standards Code, to amend Railway Group Standards to require train operators, in consultation with rolling stock owners, to publish and disseminate to Network Rail any detailed data they may possess relating to the actual braking performance of the trains they operate on the national network (for a range of typical train formations). This should include the distance to stop from a range of speeds (or the duration of any freewheel time and the subsequent rate of deceleration).

Comment

RSSB considers that existing standards and legal obligations already provide for this recommendation.

ORR has informed RAIB that it believes that data on train braking performance can be requested at any time by Network Rail for the purposes of any risk assessment and that this is underpinned by law in Regulation 22 of Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS), under the duty of cooperation, and therefore does not necessarily need to be included in standards or published.

The RAIB has concerns that there is no specific provision in existing standards to mandate the publication and dissemination of detailed data on train braking performance.

RECOMMENDATION	4	Status: Implemented (by alternative means)
<p>RSSB, in consultation with industry stakeholders, should review the practicability of enhancing the minimum emergency braking performance mandated for new passenger trains in Railway Group Standards. The objective of any such enhancement shall be to improve consistency between the minimum braking performance of new passenger trains and the design of train protection systems in use on the network. If shown to be reasonably practicable, RSSB should make a 'proposal', in accordance with the Railway Group Standards Code, to amend Railway Group Standards accordingly.</p>		
<p>Comment</p>		
<p>ORR has reported that RSSB has taken no action in response to this recommendation. RSSB claimed that the recommendation would be addressed by the TSI on conventional rolling stock, the TSI makes no such provision.</p> <p>The ORR has informed the RAIB that the requirements for braking performance for new (non-high speed) rolling stock are defined in the conventional rail Technical Specifications for Interoperability (TSI) (LOC&PAS). This TSI was published in the Official Journal of the European Union on 26 May 2011. ORR expects the TSI to be complied with by any projects seeking authorisation after the end of 2011.</p> <p>The LOC&PAS TSI defines the train's braking system in relation to the infrastructure characteristics. This means that for new rolling stock being authorised for UK infrastructure its braking performance has to be compatible with the signalling system, which means with the requirements of TPWS.</p>		
RECOMMENDATION	5	Status: In-progress
<p>Network Rail should review its management processes with the objective of ensuring that:</p> <ul style="list-style-type: none"> • the findings of signal and layout risk assessments (using tools such as SAT) are translated into reasonably practicable measures to address the risk identified; and • relevant risk assessments are properly considered when reviewing the actions to be taken in response to recommendations made following investigations. 		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		
RECOMMENDATION	9	Status: In-progress
<p>Network Rail should ensure that its methodology and computer systems for assessing the risk associated with signal overruns correctly take into account the actual braking performance of all trains scheduled to pass a signal. This should allow for freewheel time and the subsequent average deceleration.</p>		
<p>Comment</p>		
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Earthworks (Class Investigation)	22:15	28 February 2008	Passenger train derailment
RAIB Report No:	25/2008	Published:	23 December 2008	

Summary

Previous RAIB investigations into three accidents where earthworks failures were significant causal factors raised a broader question regarding the current state of the earthworks on the national rail network. This investigation was carried out to address this broader question and not, as is more common practice for the RAIB, in response to a specific incident. The format is therefore that of a technical review of the current status and practice within Network Rail.

This investigation:

- considered whether the risks were being adequately identified and managed;
- identified whether there was any evidence of an undesirable trend in the incidences of major earthworks failures;
- considered the accuracy and effectiveness of Network Rail's technical assessments, and
- compared Network Rail's systems with other infrastructure owner's earthworks management systems.

Recommendations

Six recommendations are made

RECOMMENDATION

1

Status: In-progress

Network Rail should conduct a study into the potential contribution to the assessment and understanding of earthworks risk from the following factors, and amend their processes as appropriate to include any improvements identified:

- the use of inspection intervals of one, five and ten years;
- local maintenance staff not reporting all precursor earthworks related defects – these may have rectification measures applied locally without further reporting;
- lack of a process for maintenance staff to report earthworks defects to the Territory Earthworks and Drainage Engineer organisation to enable appropriate action to be taken;
- track inspection staff not routinely looking over cutting horizons;
- a high focus by track inspection staff on track support areas and particularly embankments to the detriment of other earthworks elements;
- track maintenance staff not having the capability, knowledge or time available to routinely inspect off-track issues – for example water in neighbouring land;
- the potential for earthworks examiners to not observe all relevant factors and indicators, because of the infrequent and seasonal visits;
- the relative weighting attached to the risks from cuttings and embankments in the Slope Stability Hazard Index algorithm – and particularly in view of b), d), e) above;
- the risk weighting attached to the operational consequence of an earthworks failure; and
- the value of information sources used in other inspections and whether this could be utilised in the reduction of risk from an earthworks failure.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION	6	Status: In-progress
Network Rail should clarify the requirements for maintenance inspectors to observe earthworks and develop an appropriate reporting process. This information should be included in NR/SP/TRK/001.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 317 EMU	Bishop's Stortford	16:21	20 January 2008	Staff hit by train (Injury/near miss)
RAIB Report No:	26/2008	Published:	23 December 2008	

Summary	
At about 16:21 hrs on Sunday 20 January 2008 the driver of train 1B78, the 14:25 hrs from London Liverpool Street to Stansted Airport, who was standing alongside his train while two fitters made repairs to it, had to take rapid evasive action to avoid being struck by another train travelling at speed on the adjacent line. The driver threw himself to the ground as the train passed. No-one was hurt in the incident, and there was no damage to trains or infrastructure. The train which was being repaired subsequently completed its journey.	
Recommendations	Five recommendations are made

RECOMMENDATION	2	Status: Implemented
Network Rail, with the train operating companies, should evaluate the quality of communications between drivers and signallers when drivers have to go onto the track. This assessment should include the adequacy of the arrangements, and Network Rail should make any necessary improvements to the process. The Communications Review Group system may provide an appropriate means of gathering data for use in this evaluation.		
Comment		
ORR has reported that Network Rail and the train operating companies have taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	4	Status: In-progress
Network Rail should devise and implement a more suitable method for recording occurrences at signal boxes and signalling centres which are not normally required to record the passage of each train.		
Comment		
Network Rail is proposing no action in response to this recommendation.		
RAIB is concerned that the safety issue has not been addressed, and is reviewing the response with ORR.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 450 EMU	Moor Lane level crossing	08:10	16 April 2008	Level crossing fatality
RAIB Report No:	27/2008	Published:	23 December 2008	

Summary

At about 08:10 hrs on 16 April 2008, a train travelling from London (Waterloo) to Windsor and Eton struck and fatally injured a pedestrian on Moor Lane footpath level crossing, near Staines, Surrey. There was no damage to the train or the railway infrastructure.

Recommendations Four recommendations are made

RECOMMENDATION

1

Status: In-progress

Network Rail should assess the risk to crossing users from slippery surfaces at all footpath, bridleway and user worked crossings, and take appropriate measures, such as the provision of a non-slip surface, to reduce them so far as is reasonably practicable.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

2

Status: In-progress

Network Rail should review the operation of the 'Ellipse' computer system and the associated processes for managing work orders, and ensure that appropriate controls are in place to prevent the premature or inadvertent closure of work orders.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

3

Status: In-progress

Network Rail should revise document NR/SP/OPS/100 to provide better guidance for risk assessors at level crossings on what level of upgrading of the crossing to improve safety can be regarded as reasonably practicable.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

4

Status: In-progress

Network Rail should revise the guidance it gives to staff inspecting level crossings, ensuring that the importance of the correct position and layout of the warning signs is adequately emphasised.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

Recommendations made for National Networks in reports published in 2009 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 locomotive	West Lodge UWC	17:13	22 January 2008	Level crossing fatality
RAIB Report No:	01/2009	Published:	20 January 2009	

Summary		
At 17:13 hrs on 22 January 2008, a freight train struck and killed a young person using West Lodge crossing, Haltwhistle.		
Recommendations	Four recommendations are made	
RECOMMENDATION	2	Status: In-progress
Network Rail should identify any footpath crossings that do not provide adequate arrangements to protect users, and draw up and implement a programme to improve them. The programme should prioritise the order in which the crossings are improved, with crossings presenting the highest risk improved ahead of those of lower risk.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	3	Status: In-progress
Network Rail should revise its management systems so that the findings of level crossing inspections and assessments are acknowledged, prioritised and acted upon to provide arrangements that adequately protect users.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	4	Status: In-progress
Network Rail should revise its methods of crossing inspection and assessment so that they confirm that arrangements to protect users and safeguard the railway:		
(a) remain adequate in all normal and foreseeable operating conditions; and		
(b) make allowance for the mobility of likely users.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 60 Locomotive	Ely Dock Junction	02:00	22 June 2007	Freight train derailment
RAIB Report No:	02/2009	Published:	22 January 2009	

Summary

At 02:00 hrs on 22 June 2007 wagon REDA16002, the 15th wagon in train 6L58, the 21:19 hrs Mountsorrel to Chelmsford, derailed on the approach to underbridge 2235 near Ely. The derailed wagon was dragged onto the bridge, where it, and other wagons that subsequently derailed, caused considerable damage to the structure. The railway was closed for six months, and the River Great Ouse for three months, which caused significant disruption to the local community and tourism in the area. There were no casualties in the derailment.

Recommendations Sixteen recommendations are made

RECOMMENDATION

2

Status: Implemented

Lafarge should as a short term measure, evaluate the use of, and if practical fit, visual markers on PHA wagon suspension, to enable train preparation staff to identify if a frictional lock up has occurred, after discharge and before the train movement from the depot.

Comment

ORR has reported that Lafarge has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

3

Status: Implemented

Network Rail and PHA wagon owners should review the risks arising from the derailments of these vehicles and whether in light of the Ely incident the current mitigation measures are adequate in respect to the compliance of the PHA wagon and the suspension characteristics of the PHA wagon against the requirements of GMRT/2141, including the effects of contamination and frictional breakout. If appropriate, Network Rail's Private Wagon Registration Agreement department should require the owners of these wagons to take such steps as are necessary to ensure they comply with its requirements.

Comment

ORR has reported that Network Rail and PHA wagon owners have taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

4

Status: Implemented

Network Rail should review the historical research data and recommendations on the GFA to determine if the recommendations are valid for the current PHA wagon design and its operating and maintenance environment. If it is found to be relevant they should arrange for this research to be briefed to all owners of PHA wagons, and for them to take any necessary steps.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	7	Status: In-progress
Network Rail should brief private wagon owners to retain maintenance records relating to wagons and provide an auditable history on sale or transfer.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	8	Status: In-progress
Network Rail, in conjunction with wagon owners and maintainers, should review, and if appropriate revise, inherited British Rail maintenance manuals so that they are complete in their coverage and that they include processes from the current Railway Group Standards and POCL.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	9	Status: In-progress
Network Rail should review maintenance hours and resources available for the maintenance of track between Ely Dock Junction and Soham, and provide appropriate levels of time and resource.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	10	Status: In-progress
Network Rail should include guidance in NR/SP/TRK/001 Section 11.4.2 so that additional consideration is given to geometry monitoring frequency and methodology for locations where the dynamic track geometry is likely to deteriorate and exceed the maintenance limit without otherwise being detected.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	14	Status: In-progress
English Welsh & Scottish Railway should implement processes so that incident investigation managers are appointed where appropriate, a comprehensive remit is prepared and investigations are completed in accordance with Railway Group Standards and their own procedures.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	15	Status: Implemented
Lafarge should introduce a system so that the Mountsorrel computer loading system is within calibration and that time intervals are sufficient to allow the wagon payload to be within the accepted tolerance.		
Comment		
ORR has reported that Lafarge has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Engineers vehicles	Terryhoogan, Northern Ireland	23:20	9 March 2008	Freight train derailment
RAIB Report No:	03/2009	Published:	11 February 2009	

Summary

At 23:20 hrs on 9 March 2008, a road rail excavator and two road rail wagons derailed at Terryhoogan, near Scarva. The excavator ran down a steep embankment before overturning and coming to rest on its side with the driver still in its cab. Its descent derailed its wagons and pulled them part way over the embankment edge. No-one was injured as a consequence of the derailment. The excavator and the wagons sustained damage to their running gear and bodywork, and there was minor damage to the infrastructure.

Recommendations

Four recommendations are made

RECOMMENDATION

1

Status: Implemented

The Downpatrick and County Down Railway should make arrangements to:

- a. maintain the excavator so that it distributes its weight appropriately in low ride mode;
- b. amend the operating and maintenance manual to prohibit an operator adjusting weight distribution by feel; and
- c. train and assess its staff in the correct method of machine operation.

Comment

DRDNI has reported that the Downpatrick and County Down Railway has taken actions in response to this recommendation.

DRDNI proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

2

Status: Implemented

Northern Ireland Railways and McLaughlin and Harvey should each put in place a process for planning work that:

- a. considers all the factors that may affect the safe operation of road rail vehicles; and
- b. identifies the arrangements to eliminate or mitigate those factors as part of a safe system of work

Comment

DRDNI has reported that Northern Ireland Railways and McLaughlin and Harvey have taken actions in response to this recommendation.

DRDNI proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

3

Status: Implemented

Northern Ireland Railways should:

- a. clearly identify the members of staff who have a responsibility to ensure the safety of vehicle movements in worksites;
- b. brief the process identified in Recommendation 2 to those staff members; and
- c. make the process form part of training and assessment for those staff members.

Comment

DRDNI has reported that Northern Ireland Railways has taken actions in response to this recommendation.

DRDNI proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	4	Status: Implemented
Northern Ireland Railways should put in place a process for the periodic inspection and assessment of road rail vehicles and their associated wagons that they or their contractors undertake before permitting operation on their infrastructure.		
Comment		
DRDNI has reported that Northern Ireland Railways has taken actions in response to this recommendation. DRDNI proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 318 EMU	Exhibition Centre station, Glasgow	08:43	3 September 2007	Passenger train derailment
RAIB Report No:	04/2009	Published:	12 February 2009	

Summary
The last carriage of an empty stock 3-car class 318 electrical multiple unit (EMU) train became derailed at low speed as it passed over facing points between Exhibition Centre and Anderston stations, Glasgow. The carriage tilted over and came to rest at an angle of approximately 75 degrees against the tunnel wall.
Recommendations
Four recommendations are made

RECOMMENDATION	1	Status: In-progress
Network Rail should introduce a policy that competence training on the use of tools and equipment shall include hands-on use of the tools and equipment on the infrastructure on which it is intended for use, in order for competence to be assessed from the training (this is not intended to apply to appreciation training, as opposed to competence training).		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	2	Status: In-progress
Network Rail should assess the risks associated with the use of points on slab track. If these are found to be substantially different from those of points on ballasted track, Network Rail should develop measures to mitigate any increased risks.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	3	Status: Non-implementation
Network Rail should undertake research in order to better understand the effects of derailments at points on slab track, and establish whether the mitigation afforded is sufficient to prevent the overturning of vehicles in the manner described.		
Comment		
ORR has reported that Network Rail has carried out a review in response to this recommendation and concluded that detailed research is unlikely to be justified. Network Rail propose no further action. The RAIB notes this conclusion.		

1 National Network(s)

RECOMMENDATION	4	Status: In-progress
Network Rail should review its management processes in order to achieve a regular quality check on the methods of work used and the quality of the work performed by track staff maintaining points and crossings. This is to minimise the risk presented when a supervisor is responsible for carrying out the primary work.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Engineers vehicles	Glen Garry	01:52	5 December 2007	Collision with other train
RAIB Report No:	05/2009	Published:	25 February 2009	

Summary	
RRV and trailer ran away in wet weather on a 1:80 gradient and collided with another RRV. Site staff nearby narrowly escaped injury.	
Recommendations	Seven recommendations are made

RECOMMENDATION	1	Status: In-progress
Network Rail should publish the gradient of lines in an easily accessible way, for example in the sectional appendix and at track access points.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	2	Status: In-progress
Network Rail should brief their contractors using on-track plant on the hazards of rail contamination and gradient to RRV operation.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	3	Status: In-progress
Network Rail should require that contractors include the risks from rail contamination and gradient in their risk assessments along with proposed mitigation measures.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	4	Status: In-progress
Network Rail should enhance the Sentinel On-Track Plant documentation for RRV operator training so that positive confirmation of the operator's understanding of the speed limit within a work site, and of the meaning of the term 'work site', is obtained.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	5	Status: In-progress
<p>Network Rail should enhance the Sentinel On-Track Plant documentation for RRV operator training to include advice to trainee operators on:</p> <ul style="list-style-type: none"> operating on gradients; operating in low adhesion conditions; and what to do in a braking emergency. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	6	Status: In-progress
<p>Companies who own or operate RRV/trailer combinations not fitted with service brakes should provide clear guidance to machine operators on the maximum speed and hauled load that the RRV can operate to, given the gradient and track conditions expected or existing at site. This guidance could take the form of a duty chart, covering all duties, displayed in the cab.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	7	Status: In-progress
<p>Network Rail should provide a time-bound plan for the elimination of the use of RRV trailers not fitted with service brakes from its network.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 locomotive	Moor Street South Junction	06:38	25 March 2008	Freight train derailment
RAIB Report No:	07/2009	Published:	18 March 2009	

Summary	
<p>At 6:37am on Tuesday 25 March 2008, a train of empty wagons derailed whilst travelling at 15mph (24 km/h) on a viaduct to the south of Birmingham (Moor St.) station. Of the four wagons that derailed, two overturned and one of these hit and demolished a 10 metre section of parapet wall. The wall fell approximately 20 metres onto private ground below, severely damaging an unoccupied, parked car.</p>	
Recommendations	Three recommendations are made

RECOMMENDATION	1	Status: In-progress
<p>Network Rail should review and amend the design and maintenance of the layout at Moor Street South junction or implement other measures to reduce the risk of it becoming out of specification within the monitoring interval.</p>		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

1 National Network(s)

RECOMMENDATION	2	Status: In-progress
Network Rail should develop methods to improve the identification of voids in lightly used track and provide this as guidance to their inspection staff. Where this is a critical factor, consideration should be given to other methods of determining voids by measurement. This may include use of a track recording vehicle or void measurement using void meters.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 221 DEMU "Super Voyager"	Tackley UWC	15:16	31 March 2008	Level crossing fatality
RAIB Report No:	09/2009	Published:	30 March 2009	

Summary
At 15:16 hrs on Monday 31 March 2008, train 9O18, the 07:03 hrs Dundee to Bournemouth CrossCountry service, struck and fatally injured an 82 year-old female pedestrian at Tackley station level crossing (Tackley crossing) in Oxfordshire. The deceased person was a local resident who was using the crossing to access the station.
Recommendations
Six recommendations are made

RECOMMENDATION	1	Status: Implemented
Network Rail should investigate whether it is reasonably practicable to install a predictor miniature stop light warning system, capable of warning users of the approach of fast trains and if a second train is coming, at this location, and whether safety benefits would be gained from such an installation.		
Comment		
ORR has reported that Network Rail has responded that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	2	Status: Implemented
Network Rail should issue an updated policy or standard to improve the control of fencing at unprotected crossings, such that decision points are not forced to the minimum dimension or sighting distances unnecessarily compromised.		
Comment		
ORR has reported that Network Rail has responded that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	3	Status: Implemented
Network Rail should, at unprotected crossings where the location of the decision point is between the instruction sign and the track and therefore potentially counter-intuitive, propose measures to clearly mark the point at which the final decision to cross should be made for acceptance by the ORR. This is for the benefit of crossing users and for the guidance of persons making inspections of the crossing.		
Comment		
<p>ORR has informed RAIB that Network Rail has taken substantive actions to address this issue. In particular:</p> <ul style="list-style-type: none"> inclusion of the marking decision points in the level Crossing Tool Kit and the guidance it provides. re-brief on the company's existing policy regarding marking decision points and the circumstances under which an additional identification of the decision point may be necessary. briefing on the research proposal on the marking of decision points which will inform long term guidance in this are the dangers of positioning the signs at the decision points such that they obscure the view. <p>The RAIB therefore considers that this recommendation is now being addressed.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotive	Foreign Ore Branch Junction, near Scunthorpe	10:48	25 January 2008	Freight train derailment
RAIB Report No:	10/2009	Published:	30 April 2009	

Summary
At about 10:48 hrs on Friday 25 January 2008, the tenth wagon of freight train 6M49, the 09:02 hrs service from Immingham Docks to Rugeley Power Station, derailed on plain line at Santon, which is on the double track section of railway line between Wrawby Junction and Foreign Ore Branch Junction, Scunthorpe. The wagon, number 370 157, was loaded with coal. During the derailment, all wheels of the wagon's leading bogie left the rails and the train continued for just over a mile before stopping. No one was injured in this accident. However, there was considerable damage to the railway infrastructure resulting in the closure of the line for over a week.
Recommendations
Nine recommendations are made

RECOMMENDATION	1	Status: In-progress
Network Rail should provide further guidance in the track inspection handbook associated with work instruction NR/WI/TRK/001 on the actions to be taken when there are track geometry irregularities close to each other that can combine to increase the derailment risk. In particular, Network Rail should review the minimum action requirements in table 8 of NR/SP/TRK/001 for lateral alignment irregularities, and if appropriate, revise it to state the measures to be taken on discovery of severe lateral alignment irregularities close to other track geometry irregularities, with timescales for action.		
Comment		
Network Rail see no case for implementing the recommendation but will issue a briefing note to cover these issues.		
ORR is seeking further information.		

RECOMMENDATION	2	Status: In-progress
Network Rail should revise NR/SP/TRK/001 to give guidance on appropriate measures to be taken on discovery of excessive cant with timescales for action.		
Comment		
Network Rail is proposing to examine a means of alerting staff to excess cant by means of track recording vehicle printouts.		
ORR is seeking further information.		

1 National Network(s)

RECOMMENDATION	4	Status: In-progress
Network Rail should develop appropriate tools to analyse trends in track geometry recording systems in order to identify rapid deterioration in track geometry, with the information output from these tools provided to the local maintenance teams.		
Comment		
Network Rail has outlined the actions to be taken in response to the recommendation (review the current asset reporting tools and the level of detail generated).		
ORR is seeking further information.		
RECOMMENDATION	5	Status: In-progress
Network Rail should provide their inspection and maintenance staff with a single source of information that allows the identification of localised areas where track quality is poor, and is repeatedly deteriorating, due to discrete track geometry faults. In particular, information about the detection, measurement, repair and post-repair inspection of discrete track geometry faults should be recorded, together with references to related work orders that are recorded on Ellipse.		
Comment		
Network Rail is considering a Geometry Fault Manager System in response to this recommendation.		
ORR is seeking further information.		
RECOMMENDATION	6	Status: In-progress
Network Rail should take measures to improve the accuracy of location information for track geometry faults recorded by all track geometry recording runs and inspection staff, and provide maintenance staff with the ability to use this information to precisely locate the identified faults.		
Comment		
Network Rail has carried out a review in response to this recommendation. Network Rail propose no further action.		
ORR is seeking further information.		
RECOMMENDATION	7	Status: In-progress
Network Rail should implement processes to investigate and monitor the effectiveness of repairs to repetitive track geometry faults, so that when a track geometry fault recurs, the reason for it coming back can be established, an appropriate repair method can be chosen and monitoring can be carried out to determine whether the second attempt to repair it has been successful.		
Comment		
Network Rail is proposing a review in response to this recommendation.		
ORR is seeking further information.		
RECOMMENDATION	8	Status: Implemented
Network Rail should brief out to existing permanent way staff, and include within the training syllabus for new permanent way staff, information which highlights the significance of water close to the track, or within the trackbed, and the importance of reporting this information.		
Comment		
ORR has reported that Network Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	9	Status: Non-implementation
<p>Freightliner should assess the permissible level of offset load before the derailment risk criteria in the Railway Group Standard GM/RT2141, Resistance of Railway Vehicles to Derailment and Roll-Over, is exceeded, and should put processes in place to ensure that any bogie hopper wagon, such as the HHA wagon, with an offset exceeding the permissible level does not enter into traffic.</p>		
<p>Comment ▲</p> <p>Freightliner report that they had made a proposal, via RSSB, for research to assess the inherent norm and deviation of lateral offset that is prevalent in UK train loading. This was considered by various committees at RSSB. These concluded that the limit valves within GM/RT 2141 include for lateral offset and that there was no business case for further investigation. ORR report they do not believe the risk of derailment coming from offset loading alone is low enough to be acceptable.</p> <p>The RAIB has expressed its concern to ORR that the risk identified by the investigation has yet to be addressed. The same risk was a factor the derailment at Duddeston in 2007 (ref. no. 16/2008).</p> <p>The ORR has advised RAIB that it recently held a meeting with Freightliner to review issues associated with offset loads (this is also relevant to Duddeston recommendation 5). RAIB is awaiting further information on the outcome of these discussion.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): On-track plant / machinery	Brentwood and Snow Hill	10:12 & 02:30	4 November 2007 & 31 October 2007	Runaway incidents
RAIB Report No:	11/2009	Published:	27 May 2009	

Summary	
<p>Joint investigation as similarities between the two incidents – the vehicle types, operations taking place and parties involved – highlighted the likelihood of common safety learning.</p> <p>Brentwood incident: At around 10:12 hrs on 4 November 2007 an operator and machine controller were putting a Basket 14 RRV, a mobile elevating work platform (MEWP) type of RRV made by Basket srl, on the track near Brentwood station (18 miles 16 chains) when it ran away westward towards Romford and London. The operator and machine controller were unable to stop the Basket 14 RRV before it gathered speed. After travelling some four miles, the machine left the possession arranged for its protection and the operator, who was in the work basket, jumped clear. The machine ran for a further three miles before Network Rail staff were able to stop it west of Romford station. The operator was injured and required hospital treatment.</p> <p>Birmingham Snowhill Incident: At around 02:30 hrs on 31 October 2007, a TD-18 RRV, another MEWP type of RRV, was being removed from the track near Birmingham Snow Hill station when it ran away. It then collided with a Basket 14 RRV parked 10-15 metres away. There were two persons in the work basket of the Basket 14 RRV and another was in the driving cab of the TD-18 RRV. All moved clear, and no-one was injured.</p>	
Recommendations	Six recommendations are made

RECOMMENDATION	1	Status: Implemented
<p>Network Rail should require all organisations that are permitted to use high ride RRVs on its infrastructure to identify those machines that require the operator to be assisted by another person(s) during on/off-tracking, and to enhance their procedures so that:</p> <ul style="list-style-type: none"> for each machine, the operator is made aware that he needs assistance before he starts working with the machine; and operators are aware of the need to come to a clear understanding with the person(s) assisting them before starting to on/off-track; this understanding should include, but not necessarily be limited to, the steps to be gone through, who is responsible for each step, and the clear and unambiguous communication that is to be used so that the RRV can be safely on/off-tracked. 		
<p>Comment</p> <p>ORR has reported that Network Rail has a programme to implement actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1

National Network(s)

RECOMMENDATION	2	Status: Implemented
<p>Network Rail should require all organisations that are permitted to use high ride RRVs on its infrastructure to review their procedures for on/off-tracking and also the supporting training given to their operators. If necessary, organisations should enhance their procedures and training so that:</p> <ul style="list-style-type: none"> the defined steps their operators need to go through during on/off-tracking result in a brake force sufficient to prevent the RRV running away on the maximum gradient permitted for on/off-tracking, and that this force is consistently applied at the holding end of the RRV (the end of the RRV that is opposite to the end at which the rail gear is being lowered (or raised)); the operator understands his responsibilities for following these defined steps and how the steps assure the braking condition described above; and that if assistance is required: <ul style="list-style-type: none"> the respective roles of the operator and the person(s) assisting (machine controller or otherwise) are identified for each step; and any special training and competency requirements for the person(s) assisting are identified and implemented, and that the operator understands his responsibilities for checking such competencies. 		
Comment		
<p>ORR has reported that Network Rail has a programme to implement actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	3	Status: Implemented
<p>Network Rail should enhance the relevant modules of the Sentinel training so that machine controllers:</p> <ul style="list-style-type: none"> are aware that operators need to come to an understanding with any person assisting them with on/off-tracking; and understand the control measures that prevent an unbraked condition occurring during on/off-tracking. 		
Comment		
<p>ORR has reported that Network Rail has a programme to implement actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	4	Status: Implemented
<p>Network Rail should enhance the relevant modules of training given as part of the Sentinel machine controller competency scheme so that those persons holding this Sentinel competency are aware of the specific duties they should be competent to perform and any specific tasks, for example assisting the operator with on/off-tracking, that this competency does not cover.</p>		
Comment		
<p>ORR has reported that Network Rail has a programme to implement actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: Implemented
<p>Network Rail should enhance the relevant modules of Sentinel training for machine controllers to give guidance and practical training on the actions to be taken in the event of a runaway.</p>		
Comment		
<p>ORR has reported that Network Rail has a programme to implement actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

RECOMMENDATION	6	Status: Implemented
Network Rail should review the MEWPs that were not modified as a result of the ORR Improvement Notice issued following the incident at Copenhagen Tunnel on 15 October 2006. If necessary, Network Rail should require that enhancements are made to these MEWPs so that they are not at risk of being in an unbraked condition during on/off-tracking.		
Comment		
ORR has reported that Network Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 56 Locomotive & Class 86 Locomotives x2	Hardendale and Cheddington	02:24 & 03:15	1 March 2008	Unsafe loads
RAIB Report No:	12/2009	Published:	27 May 2009	

Summary
<p>On 1 March 2008, at approximately 02:24 hrs, two empty containers were blown off freight train 4E90, the 00:07 hrs Isle of Grain to Doncaster, while it was travelling on the Down Fast line of the West Coast Main Line (WCML) at Cheddington, near Leighton Buzzard. The freight train consisted of a Class 56 locomotive hauling 20 FEA-B type flat wagons and was running at approximately 75 mph (121 km/h). The detached containers blocked the running lines and caused damage to overhead line equipment (OLE) and to the track.</p> <p>On the same morning, at approximately 03:15 hrs, five empty containers were blown from freight train 4S83, the 18:28 hrs Tilbury to Coatbridge, on the down line of the WCML adjacent to Hardendale Quarry, between Tebay and Penrith. The train consisted of two Class 86 locomotives hauling 20 container flat wagons of mixed types, including ten FEA-B wagons, and was running at approximately 75 mph (121 km/h). The detached containers consisted of three 20 ft, one 40 ft and one 20 ft tank container and were blown from the rearmost four FEA-B wagons of the train. They blocked running lines and caused damage to the OLE and track.</p>
Recommendations
Ten recommendations are made

RECOMMENDATION	1	Status: In-progress
Freight Operating Companies running wagons fitted with non-compliant UIC spigots, should review the threshold speeds in NIR 2350 above which special measures are taken when conveying empty or lightweight containers in windy conditions and check that the following factors are taken into account:		
<ul style="list-style-type: none"> • local wind acceleration effects due to topography, on routes they cover; • minimum container weights and container sizes being transported; and • design of the wagons used (eg conventional or spine type underframe). 		
Comment		
Freight Operating Companies have outlined the actions to be taken in response to the recommendation.		
ORR is seeking further information.		

1 National Network(s)

RECOMMENDATION	2	Status: In-progress
<p>Freight Operating Companies running wagons fitted with UIC spigots should check that the spigots comply with UIC 571-4 and ensure non-compliant wagons are identified for special operational measures when carrying empty or lightweight containers in windy conditions. Particular attention should be given to the lateral spacing and the inward angular rotation of the spigots.</p>		
<p>Comment</p> <p>Freight Operations Companies have reported that they have taken actions in response to this recommendation and have completed a review of its fleet. ORR is seeking further information.</p>		
RECOMMENDATION	3	Status: In-progress
<p>Freight Operating Companies running wagons fitted with non-compliant UIC spigots, should develop and implement solutions to reliably retain empty or lightweight containers in windy conditions, in order to eliminate the need for special measures in the long term.</p>		
<p>Comment</p> <p>Freight Operating Companies have outlined the actions to be taken in response to the recommendation. Some propose operational risk mitigation measures. ORR is seeking further information.</p>		
RECOMMENDATION	4	Status: In-progress
<p>Freight Operating Companies running wagons fitted with UIC spigots should review and, where necessary, amend their maintenance instructions for spigots to comply with the service checks specified in UIC 571-4 appendix C.</p>		
<p>Comment</p> <p>Freight Operating Companies have outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	6	Status: Implemented
<p>RSSB should make a proposal, in accordance with Railway Group Standards Code, to introduce a requirement for load retention devices so that such devices are checked against their original specification, whether to RGS or not, as part of the vehicle certification process. For the specific case of UIC spigots, explanatory guidance should be provided about the function and operating principle of UIC spigots and the dangers of fold-down spigots with inboard hinges.</p>		
<p>Comment</p> <p>ORR has reported that RSSB has carried out a review in response to this recommendation. RSSB propose no further action. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate. Reference from Railway Group Standard (GM/RT2100 Issue 4, Dec 2010) to the Freight Wagon TSI now means that there is a requirement to meet the spigot specifications of UIC 571-4 (where applicable) which are reproduced in the TSI. RGS guidance note GM/GN2688 Issue 1, Dec 2010, now clarifies the operation of the spigots.</p>		

RECOMMENDATION	7	Status: Implemented
<p>RSSB should make a proposal to its stakeholders to review whether the implementation of the vehicle certification process in the UK adequately addresses risk introduced by new or refurbished vehicles. This review should include the scrutiny of safety critical equipment designed and built to non-Railway Group Standards (eg UIC codes). If necessary, RSSB should propose changes in accordance with Railway Group Standards Code to cover any identified gaps and provide guidance to the UK rail industry on retrospective review.</p>		
Comment ▲		
<p>The RSSB report that this recommendation was discussed at the Rolling Stock Standards Committee. It was concluded that UK legal regulations already place responsibility on duty holders implementing a change to ensure that such a change addresses all applicable risks and therefore no change to the processes mandated by Railway Group Standards is necessary.</p> <p>The ORR attended the above committee and agreed with the conclusion that was reached. Furthermore, the ORR is of the view that the assurance process was not at fault but that the UIC code could be, and on this occasion was, misinterpreted.</p> <p>The ORR has reported that RSSB has issued new guidance to designers on the configuration of spigots.</p> <p>The RAIB is still of the view that the case of the FEAB spigots demonstrated a shortcoming of the vehicle certification process at the time, which could still exist in relation to the certification of other important railway components designed to non-UK railway standards. The wider review called for in recommendation 7 is required to establish whether or not there are any other gaps in the certification processes.</p> <p>The RAIB considers this to be an important issue that has still to be addressed.</p>		
RECOMMENDATION	8	Status: Implemented
<p>Network Rail should review the compatibility of the wind trigger speeds and durations at which mitigating action is taken on the network, with the overturning wind speed limits specified in Railway Group Standard GM/RT2142, taking account of local wind acceleration effects due to topography, such as embankments.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	9	Status: Implemented
<p>RSSB should review whether the current minimum container weight of 1.6 tonnes specified in the Railway Group Standard GO/RM3056 section J, adequately accounts for container size with respect to operations in windy conditions, and make a proposal in accordance with the Railway Group Standards Code to make any necessary changes to this or other standards or guidance on freight train operation.</p>		
Comment		
<p>ORR has reported that RSSB has outlined the actions to be taken in response to the recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	10	Status: In-progress
<p>Freight Operating Companies running FEA-B wagons, should review the status of compliance of these wagons against the whole vehicle overturning requirement of Railway Group Standard GM/RT2142 for all relevant container sizes and, if necessary, take appropriate steps to change their operations with these wagons in windy conditions.</p>		
Comment		
<p>Freight Operating Companies have reported that they are taking actions in response to this recommendation.</p> <p>ORR is seeking further information.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 91 Locomotive	User Worked Crossings (Class Investigation)	14:34	30 August 2006	Level crossing near miss
RAIB Report No:	13/2009	Published:	3 June 2009	

Summary

Most incidents at UWCs are caused by user error/violation. Extensive research into the reasons for this has been done. More could be done to improve the management of UWCs, the signs presented to users, and the legal framework.

Recommendations **Eight recommendations are made**

RECOMMENDATION

1

Status: Implemented

Network Rail should invite the authorised user or other invitees (such as persons having business on the land) to participate in the preparation of comprehensive site specific risk assessments for UWCs in all cases.

The intention of this recommendation is that all factors affecting the use of the crossing should be considered when risk assessments are carried out, and that this should be done at all crossings, instead of just at those which have been assessed as higher risk.

Comment

ORR has reported that Network Rail has outlined the actions to be taken in response to the recommendation, but consider that it may not be reasonably practicable in all cases.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

2

Status: Implemented

Network Rail should include in the risk assessments that it carries out for UWCs that are not equipped with telephones or lights an evaluation of whether there is sufficient information for users on where they should make a decision on whether it is safe to cross, based on the best sighting of approaching trains. Where deficiencies are identified consideration should be given to:

- enhancement of sighting by the removal of obstructions (including improved management of vegetation), so removing the need for additional guidance to users;
- the moving and/or adaptation of existing signs, gates or barriers;
- the provision of an additional sign or visual feature to mark a point where users can wait in safety, clear of the line, and have sufficient sighting of approaching trains (ie at the final decision point); or
- the upgrading of the crossing to an enhanced level of protection, using telephones or warning lights as appropriate to the location.

The intention of this recommendation is that, as a result of risk assessment, users should be given sufficient information or protection to enable them to use the crossing safely.

Comment

ORR has reported that Network Rail consider that existing measures address the 1st, 2nd and 4th bullet, and propose no action in response to the 3rd bullet.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	3	Status: Implemented
<p>Network Rail should initiate research into reasonably practicable methods of marking the final decision point at those UWCs where such a solution is assessed as being appropriate. This scope of this research should include:</p> <ul style="list-style-type: none"> the requirement to reconcile the needs of various types of user (eg drivers of vehicles, pedestrians, cyclists and equestrians); the various categories of UWC (including those which also include public footpaths and bridleways); an analysis of where to locate such signs or visual features in relation to the track; and the need to protect the railway from vehicle incursions. 		
<p>Comment</p> <p>ORR has informed RAIB that Network Rail has taken substantive actions to address this issue. In particular:</p> <ul style="list-style-type: none"> inclusion of the marking decision points in the Level Crossing Risk Management Tool Kit and the guidance it provides. re-brief on the company's existing policy regarding marking decision points and the circumstances under which an additional identification of the decision point may be necessary. briefing on the research proposal on the marking of decision points which will inform long term guidance in this are the dangers of positioning the signs at the decision points such that they obscure the view. <p>The RAIB therefore considers that this recommendation is now being addressed.</p>		
RECOMMENDATION	4	Status: Implemented
<p>Network Rail should, taking into account the results of the current trials with new technology, consider how the protection of UWCs which at present are without telephones or lights, can be improved to give the user reliable, consistent and timely warning of the approach of trains, and implement a programme to upgrade the crossings which would benefit from this protection.</p>		
<p>Comment</p> <p>ORR has reported that Network Rail has taken actions, as part of its existing processes, in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: Implemented
<p>Network Rail should carry out an assessment of the risks and benefits of removing the need for the crossing user to open gates or barriers, in conjunction with the protection of the crossing by road traffic signs or lights of an appropriate type. The results of this assessment should be used to inform Network Rail's policy on the upgrading of user worked crossings.</p>		
<p>Comment</p> <p>ORR has reported that Network Rail considers that its existing measures and initiatives meet the intent of this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	7	Status: Implemented
<p>The Heritage Railway Association should draw its members' attention to this report so that individual heritage railways can note the findings and review their risk assessment and crossing management arrangements.</p>		
<p>Comment</p> <p>ORR has reported that the Heritage Railway Association has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Poplar Farm level crossing	16:13	1 July 2008	Level crossing near miss
RAIB Report No:	14/2009	Published:	11 June 2009	

Summary

At about 16:13 hrs on 1 July 2008, a mobility scooter was driven onto Poplar Farm level crossing, Attleborough, Norfolk, into the path of the approaching train 1M30, the 15:52 hrs from Norwich to Liverpool Lime Street. The train driver saw the mobility scooter but was unable to stop the train before it reached the crossing. The mobility scooter moved clear of the crossing before the train arrived, and there were no injuries or damage. The crossing gates had been opened by a crossing keeper located at the crossing so that road vehicles, including the mobility scooter, could cross the railway.

Recommendations

Two recommendations are made

RECOMMENDATION

1

Status: In-progress

Network Rail should review its procedures for the operation of Poplar Farm crossing with the aim of identifying improvements that would reduce the possibility of errors being made in the operation of the crossing. This review should include consideration of:

- current and future road and rail traffic levels; and
- measures to reduce the likelihood of crossing keepers mistaking the location of trains indicated by 'train in section'.

All reasonably practicable improvements should be implemented.

Comment

Network Rail has reported that it has taken actions in response to this recommendation.

ORR is seeking further information.

RECOMMENDATION

2

Status: Implemented

Network Rail should revise its current method of crossing inspections to take account of:

- local factors relating to the method of operation of crossings; and
- changes in traffic levels.

Crossing risk assessors should be advised through the process referred to above of any identified changes that are likely to increase crossing risk.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 165 DMU	Acton West	01:00	24 June 2008	Collision with other object
RAIB Report No:	15/2009	Published:	18 June 2009	

Summary

At around 01:00 hrs on the morning of 24 June 2008, three members of a rail grinding team were waiting with two rail-mounted grinding machines on the up relief line east of the crossovers at Acton West Junction, waiting permission to push the machines towards Ealing Broadway station. Train 2P01, the 00:15 hrs service from Reading to London Paddington, ran through the crossovers at Acton West onto the up relief line and struck the machines. The three members of the grinding team scattered as the train approached. Nobody was injured in the accident, but the train suffered damage to braking equipment and a punctured fuel tank on the leading coach. The 25 passengers on the train were evacuated safely.

Recommendations	Eight recommendations are made
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RECOMMENDATION

1

Status: Implemented

The intention of this recommendation is to reinforce existing arrangements within Network Rail for COSS packs to be prepared and implemented by staff with adequate geographical knowledge of the locality. Network Rail should:

- a. re-brief the requirements (now in standard NR/L2/OHS/019) for the COSS pack to be prepared and checked by individuals who have geographical knowledge of the relevant area and for COSSs to have geographical knowledge of the area in which they are to work;
- b. take steps to achieve compliance with the requirements defined in 1a; and
- c. conduct a compliance audit after a suitable period of time to confirm that these requirements defined in 1a are being implemented satisfactorily.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

1 National Network(s)

RECOMMENDATION	2	Status: Implemented
<p><i>The intention of this recommendation is to:</i></p> <ul style="list-style-type: none"> • <i>promote the involvement of the ‘end-user’ in designing the paperwork that they use on site;</i> • <i>secure the COSS’s involvement in the planning of the safe system of work that they will implement on site; and</i> • <i>achieve a consistent and user-friendly appearance for the COSS pack (including the RT9909 form).</i> <p>Network Rail should, in its current project to overhaul the RIMINI planning process:</p> <ol style="list-style-type: none"> a. involve those who will use the information on site in developing a revised format for the COSS pack (and the RT9909 form); b. include a role for the COSS in the planning of their safe system of work; and c. improve the format of the COSS pack (and the RT9909 form), with particular emphasis on the clarity and consistency of information presented, including, but not limited to: <ul style="list-style-type: none"> • consistency in the method for identifying key locations such as the site of work, limits of possession and access points; • clarity over the information that is required in each section of the new forms; • the option of identifying in the COSS pack where access to site can be achieved by walking lineside as opposed to on or near the line; and • the use of diagrams and maps to show key locations and their relationship with each other. 		
<p>Comment</p> <p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	3	Status: Implemented
<p><i>The intention of this recommendation is to encourage Network Rail to expedite the provision of track layout signage at access points.</i></p> <p>Network Rail should develop and implement a programme for the provision of track layout information signage at all railway access points, showing mileages, line names and directions and other key items of local railway information, as appropriate.</p>		
<p>Comment</p> <p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	4	Status: Implemented
<p><i>The intention of this recommendation is to reinforce existing requirements on the content of PICOP’s briefing meetings within the London delivery unit of Network Rail’s Western route.</i></p> <p>Network Rail should modify the format and content of the PICOP’s briefing meeting held in the London delivery unit of Western route to conform with the requirements of NR/L2/MTC/PL0056 and in particular, arrange for the PICOP, Engineering Supervisor and direct representatives of those who are to be involved in the following week’s possessions to be present.</p>		
<p>Comment</p> <p>ORR has reported that Network Rail has reported that it has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

RECOMMENDATION	5	Status: In-progress
<p><i>The intention of this recommendation is for Network Rail to review the extent to which existing requirements on the contents of PICOP's briefing meetings are being respected nationally and take action to promote compliance with the contents of standard NR/L2/MTC/PL0056.</i></p>		
<p>Network Rail should:</p>		
<p>a. investigate the extent to which PICOP's briefing meetings comply with the requirements of NR/L2/MTC/PL0056 nationally, taking steps to achieve wider compliance, as necessary; and</p> <p>b. consider the development of standard forms to assist those leading meetings referred to in NR/L2/MTC/PL0056 to cover all of the items on the agenda.</p>		
<p>Comment</p>		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	6	Status: Implemented
<p><i>The intention of this recommendation is for Network Rail to review the adequacy of its audit arrangements in view of the longstanding non-compliance of the London area of Western territory with NR/PRC/MTC/PL0056, and make improvements as necessary.</i></p>		
<p>Network Rail should conduct a review of its audit arrangements as applied to possession planning to establish how it was possible for the PICOP's briefing meeting at Paddington to have been non-compliant with the requirements of NR/PRC/MTC/PL0056 for an extended period of time, making changes, as necessary, for adequate scrutiny of possession planning arrangements nationally.</p>		
<p>Comment</p>		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	7	Status: Implemented
<p><i>The intention of this recommendation is for Network Rail to promote an equitable balance of work between safety-critical staff in work sites and possessions including development of specific guidance on how to keep work sites as short as possible.</i></p>		
<p>Network Rail should issue guidance to routes on how to achieve an equitable balance of work between safety-critical staff within possessions and how to avoid the workload of any individual being excessive (including, but not limited to, complying with the rule book requirement to keep work sites as short as possible and briefing the guidance in Module 14 of standard NR/L3/MTC/PL0175).</p>		
<p>Comment</p>		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1

National Network(s)

RECOMMENDATION	8	Status: Implemented
<p>The intention of this recommendation is for Network Rail to consider whether its current arrangements for assessment in the line are being properly implemented in Western route.</p> <p>Network Rail should conduct a review of arrangements within Western route for assuring that those employees undertaking assessments in the line are being monitored in accordance with the requirements identified in Network Rail's own procedures and take steps to rectify any deficiencies found.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 43 HST Power car	New Southgate	11:20	27 July 2008	Train door incidents
RAIB Report No:	17/2009	Published:	24 June 2009	

Summary
<p>At approximately 11:20 hrs on Sunday 27 July 2008, a luggage van sliding door on train 1S13, the 11:00 hrs King's Cross to Aberdeen, became detached and struck train 1A16, the 08:24 hrs Leeds to King's Cross. This happened in the vicinity of New Southgate, around 6¾ miles (10.8 km) north of King's Cross, at a closing speed of approximately 196 mph (314 km/h). The side of train 1A16 suffered significant damage, although the passenger compartment was not penetrated. All doors and windows remained intact. A number of passengers and crew were shaken and one passenger reported suffering a minor eye injury as a result of glass-fibre particles entering a vestibule through a part open window.</p>
Recommendations
Five recommendations are made

RECOMMENDATION	1	Status: In-progress
<p>HST owners, National Express East Coast and other HST operators should re-examine the set-up and maintenance requirements for HST luggage van doors to promote safer operation. They should include consideration of previous incidents, original design drawings and maintenance experience. As a result they should amend their procedures as necessary, paying particular attention to:</p> <ul style="list-style-type: none"> inspection of the centre trolleys, pins and rollers; set-up and attachment of cam blocks; checking main lock spring rates; and correct set-up of main lock engagement with the striker plate. 		
Comment		
<p>HST owners, National Express East Coast and other HST operators have outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		

RECOMMENDATION	2	Status: Implemented
<p>HST owners and operators should consider whether peened centre pins should be replaced by a more reliably fixed pin. If the use of peened pins is continued, consideration should be given to positioning the pins' heads towards the door and the peening towards the luggage van.</p>		
<p>Comment</p>		
<p>ORR has reported that HST owners and operators have taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	3	Status: Implemented
<p>National Express East Coast should put in place procedures mandating the monitoring of the frequency of luggage van doors being found open in traffic and the factors that may be causing this. The procedures should also require that corrective actions should be identified and put in place.</p>		
<p>Comment</p>		
<p>ORR has reported that National Express East Coast has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	4	Status: Implemented
<p>National Express East Coast should modify their Defective On-Train Equipment Contingency Plan to define Bounds Green as a servicing depot for HSTs. They should consider in detail, what safety precautions should be put in place before a train can enter service from such a depot with unrepaired defective on-train equipment and generate procedures to enable staff to put such precautions in place. Such procedures should include a reliable method of securing HST luggage van doors out of service and clearly differentiate between passenger and non-passenger doors.</p>		
<p>Comment</p>		
<p>ORR has reported that National Express East Coast has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: Implemented
<p>HST owners and operators of rolling stock with similar designs of luggage van door (in particular Mk 3 and Mk 4 Driving Van Trailers) should consider the applicability of Recommendations 1, 2 and 3 to their operations and act upon them where applicable.</p>		
<p>Comment</p>		
<p>ORR has reported that HST owners and operators have taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 375 EMU	Grosvenor Bridge, Victoria	14:00	13 November 2007	Staff hit by train (Injury/near miss)
RAIB Report No:	19/2009	Published:	16 July 2009	

Summary

At 14:00 hrs on 13 November 2007, a track worker engaged in a planned track inspection was struck by a passing train on Grosvenor bridge, south of London Victoria station. He suffered serious injuries.

Recommendations **Nine recommendations are made**

RECOMMENDATION

1

Status: Non-implementation

Network Rail should propose a change to the Rule Book, in accordance with the Group Standards code, so that all members of a work group have the responsibility to ensure that they receive a full briefing prior to signing the COSS form.

Comment

Network Rail has carried out a review in response to this recommendation. Network Rail propose no further action.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

2

Status: In-progress

In order to reduce the risk to track workers, Network Rail should review their programme for provision of automatic warning systems for red zone track inspections and if practicable should implement a programme to accelerate the introduction of appropriate systems for multi track areas.

Comment

Network Rail has outlined the actions to be taken in response to the recommendation.

ORR is seeking further information.

RECOMMENDATION

3

Status: Implemented

Network Rail should review the derogation that safety helmets need not be worn at all times during basic visual track inspection.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

4

Status: In-progress

In order to verify their effectiveness, Network Rail should monitor recently introduced processes that will show whether an individual's on-the-job performance routinely achieves the prescribed level with regard to safety. If necessary these processes should be enhanced.

Comment

Network Rail has outlined the actions to be taken in response to the recommendation.

ORR is seeking further information.

RECOMMENDATION	5	Status: In-progress
<p>In order to reduce the risk to track inspection staff, Network Rail should propose a change to the Rule Book and the COSS Handbook, in accordance with the Group Standards code, that amends the procedures for red zone working with lookout protection in a multi-track area to:</p> <ul style="list-style-type: none"> • Clearly define an approaching train. • Clarify the criteria for setting up a safe system of work, including the circumstances that require pre-planning. Consideration should include: <ol style="list-style-type: none"> a) the practical capabilities of lookouts; b) the possibilities for human error and its consequences; c) the ability to identify the track a particular train is using; d) the likelihood of multiple train movements; e) the complexity of track layout; f) the nature of the work being undertaken; and g) the size and disposition of the work group for continued observation by the lookout. 		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	6	Status: In-progress
<p>In advance of any change to the Rule Book and COSS Handbook under Recommendation 5 and to provide clear and unambiguous safety instructions and/or guidance, Network Rail should either eliminate the current practices used in relation to staff not moving to a position of safety but remaining in a location where they do not believe they are in danger from a train moving towards their site of work, or should introduce formally risk assessed alternatives for setting up a safe system of work in a multi-track area. The risk assessment should consider the topics listed in Recommendation 5.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	7	Status: In-progress
<p>Network Rail should validate the process and systems used to provide safety information for the COSS pack to show that its output is correct and complete.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	9	Status: Implemented
<p>In order to ensure that staff allow an appropriate time to reach a position of safety, Network Rail should arrange to rebrief appropriate staff working on the railway so that they are reminded of the risks posed by areas of limited clearance such as the raised bridge parapets on the lines over the Grosvenor Road Bridge.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Llanbadarn ABCL	11:13	21 October 2008	Level crossing near miss
RAIB Report No:	20/2009	Published:	28 July 2009	

Summary

At 11:13 hrs on Tuesday 21 October 2008 a passenger train ran across Llanbadarn level crossing, near Aberystwyth while the barriers of the crossing were open to road traffic. A collision with a tanker lorry carrying liquefied petroleum gas was avoided by less than two metres. No injuries resulted from the incident.

Recommendations **Eight recommendations are made**

RECOMMENDATION

1

Status: Implemented

Network Rail should complete its reviews of Llanbadarn ABCL and implement any actions that it deems reasonably practicable to improve the safety of the crossing.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

2

Status: In-progress

Network Rail should amend the timings of Forden crossing so that it is possible for drivers to observe a flashing white aspect on the driver's crossing indicator when passing the special speed restriction board.

Comment

Network Rail has stated that this crossing will be included within the review and risk assessments carried out in response to Recommendations 6 & 7. The review has shown the amendment of the timings at Forden crossing to be reasonably practicable.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

3

Status: Implemented

The Rail Safety and Standards Board should make a proposal, in accordance with the Railway Group Standards Code, to amend paragraph 4.2 of module TW8 of the Rule Book so as to make explicit that a driver should start to control his speed at once if he observes a flashing red aspect when passing the special speed restriction board of a locally monitored automatic crossing.

Comment

ORR has reported that RSSB has carried out a review in response to this recommendation. RSSB propose no further action.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	4	Status: Implemented
Arriva Trains Wales should review its training (and training material) for drivers who have to drive over locally monitored automatic crossings to make clear the meaning of the position of the special speed restriction board, and the need to control the speed of the train if the driver's crossing indicator is not showing a flashing white aspect when a driver passes it.		
Comment		
ORR has reported that Arriva Trains Wales has carried out a review in response to this recommendation. Arriva Trains Wales propose no further action.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	5	Status: In-progress
Network Rail should review the ALCRM assessment for Llanbadarn ABCL to take into account the risk of a Vale of Rheidol Railway train causing a flashing red aspect of the driver's crossing indicator to display when a train arrives on the Network Rail line, and the short sighting time to the down direction special speed restriction board, and, if appropriate, take any actions identified as reasonably practicable.		
Comment		
Network Rail has reported that it has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	6	Status: In-progress
Network Rail should complete its assessment of the other locally monitored automatic crossings on its network.		
Comment		
Network Rail has reported that it has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	7	Status: In-progress
Network Rail should, if required in the light of Recommendation 6, amend crossing timings so that it is possible for drivers to observe the white flashing aspect on the driver's crossing indicator before they reach the special speed restriction board.		
Comment		
Network Rail has reported that it has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	8	Status: In-progress
Network Rail should implement monitoring of the compliance by signalling maintenance staff on the Cambrian Lines with the requirement in RT/SMS/Test/071 to contact the signaller before working on locally controlled automatic crossings, so as to be able to take steps to address any deficiencies identified.		
Comment		
Network Rail has reported that it has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotive	Basingstoke Station	10:13	19 December 2008	Unsafe loads
RAIB Report No:	21/2009	Published:	12 August 2009	

Summary

At 10:13 hrs on 19 December 2008, a shipping container which was loaded on a freight train travelling from Wakefield Europort to Eastleigh, struck the canopy above platform one at Basingstoke station as the train passed through at about 25 mph (40 km/h). The canopy was damaged over a length of 130 m, and pieces of wood were scattered along the platform. No-one was hurt.

Recommendations

Three recommendations are made

RECOMMENDATION

1

Status: Implemented

DB Schenker should carry out a review of the activities at its terminals, and introduce systems to minimise the incidence of out of gauge loads. This review and the subsequent actions taken should address, in particular:

- the arrangements for monitoring the performance of staff;
- the training and assessment of staff;
- methods of verifying the gauge compliance of trains leaving terminals;
- interfaces between the different systems used to manage container traffic; and
- the procedures used for processing information relating to dangerous goods traffic.

Comment

ORR has reported that DB Schenker has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

3

Status: Implemented

DB Schenker should, in co-operation with other system users as appropriate, request that the ERIC system be revised to highlight alert messages that may be safety critical.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 321 EMU	Bridge GE19, near Liverpool Street	19:17	28 May 2008	Collision with other object
RAIB Report No:	22/2009	Published:	20 August 2009	

Summary

At 19:17 hrs on Wednesday 28 May 2008, train 1K12, the 19:15 hrs London Liverpool Street to Southend Victoria service, struck debris on the track. The debris had fallen from a new rail bridge under construction, spanning the mainline railway close to Liverpool Street station. The train suffered minor damage and there were no injuries.

Recommendations

Seven recommendations are made

RECOMMENDATION

1

Status: Implemented

Network Rail should review its Safety Management System, and procedures, to satisfy itself that the following points are covered before approving construction work, particularly by third-parties, on or over the operational railway:

- a. The requirement for an approved design, method statement and risk assessment for any remedial activity involving load-bearing temporary works. This should include consideration of a range of failure modes, and inspection against known parameters after the structure or temporary works have been knowingly disturbed;
- b. The means of safely adjusting the horizontal position of a structure should this become necessary;
- c. The requirement to specifically consider the risks arising from the use of unrestrained low-friction surfaces, such as PTFE, which may be subjected to unpredicted lateral loads and disturbing forces during construction activity. This should include the reduction in the coefficient of friction which can occur when a sustained horizontal force is applied;
- d. The means of securing permanent formwork and other construction materials, to protect against sudden or unplanned structural movement;
- e. The need for method statements to contain accurate information on all construction stages, and to consider the effects of thermal movement where structures are supported on bearings;
- f. The need for contractor's risk assessments to include consideration of low probability high impact risks associated with temporary works;
- g. The need for independence in the routine inspection of complex temporary works, which should not be delegated to the organisation responsible for providing them;
- h. The means to prevent rain water collecting directly above 25 kV electrification equipment due to the risk of flash-over if the water is released in an uncontrolled manner;
- i. The requirement for the intermediate certification of structures, including temporary works, for which the existing Form E process may be inadequate; and
- j. The benefit to all parties on major projects of adopting a common categorisation for risk assessments, to enable a coherent risk profile to be generated and to avoid the risk of confusion.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

1 National Network(s)

RECOMMENDATION	2	Status: Implemented
<p>London Underground Limited, Rail for London, the Heritage Rail Association, the Light Rail Engineering Group and Northern Ireland Railways should establish processes so that information is available to any potential suppliers of similar projects or assets regarding the issues raised within this report.</p>		
Comment		
<p>ORR has reported that London Underground Limited, Rail for London, the Heritage Rail Association, the Light Rail Engineering Group and Northern Ireland Railways have reported taking actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	3	Status: Implemented
<p>Network Rail should establish procedures so that information is available to operations staff where construction activities could reasonably affect the safety of the railway. These should include, in particular:</p> <ul style="list-style-type: none"> a. the provision of emergency contact details for identified project representatives out-of-hours; and b. information on the location of each site, and the signal numbers necessary to protect the line. 		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	4	Status: Non-implementation
<p>Network Rail should expand NR/L2/OCS/250, the National Emergency Plan to:</p> <ul style="list-style-type: none"> a. make provision for maintaining or extending the command structure in place following the exit of the emergency services from the site to ensure that post-incident activities are managed properly; b. reinforce arrangements for managing non-railway organisations during the incident recovery phase and prevent persons being exposed to risk due to a lack of site coordination; and c. require route controllers to positively confirm what trains are involved in an incident, establish the location and ensure communication with all trains requiring assistance. 		
Comment		
<p>Network Rail has carried out a review in response to this recommendation and concluded that its existing arrangements cover the intent of the recommendation, and propose no further action.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: Implemented
<p>Network Rail should enhance the incident management training given to operations staff to reflect the requirements of Recommendation 4.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

RECOMMENDATION	6	Status: In-progress
<p>The Health and Safety Executive should:</p> <ol style="list-style-type: none"> draw the attention of the Standing Committee on Structural Safety (SCOSS) to the issues identified in this report regarding the safe use of PTFE in construction to ensure a wider promulgation amongst the civil engineering community; and approach companies known to be involved in moving large loads using PTFE to check they have appropriate guidance and internal procedures to address the safe use of PTFE. 		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

RECOMMENDATION	7	Status: Implemented
<p>National Express East Anglia should review their procedures relating to the appointment of a TOLO, or other site representative, in response to major railway incidents involving passengers.</p>		
Comment		
<p>ORR has reported that National Express East Anglia has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): PELH Passenger train	Stevenage	17:35	7 December 2008	Staff hit by train (Injury/near miss)
RAIB Report No:	23/2009	Published:	27 August 2009	

Summary
<p>At about 17:35 hrs on 7 December 2008 a trackworker came into contact with a train passing a site at which track relaying was taking place at Stevenage in Hertfordshire. The trackworker was taken to hospital for treatment of his injuries which were not life threatening. The relaying was temporarily suspended for the Safe Systems of Work in place to be reviewed, leading to a delay in the re-opening to rail traffic of the line being repaired.</p>
Recommendations
Six recommendations are made

RECOMMENDATION	1	Status: Implemented
<p>Jarvis Rail should enhance its management systems so that the systems of work intended to be implemented by Controllers of Site Safety within work sites are pre-planned by a competent person. The method of protection should be clearly indicated on the Task Briefing Sheets and on COSS Forms.</p>		
Comment		
<p>ORR has reported that Jarvis Rail has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

RECOMMENDATION	2	Status: Implemented
Jarvis Rail should enhance its risk assessments to include Trac Rail Transposers and the inclusion of any risk mitigation measures in documented working arrangements (this should include an assessment of the exclusion zone around the machines and its enforcement). Jarvis Rail should subsequently brief all relevant staff (and in particular Engineering Supervisors and Controllers of Site Safety) on the hazards identified and the nature of the exclusion zone.		
Comment		
ORR has reported that Jarvis Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	3	Status: Implemented
Jarvis Rail should enhance its management systems to deliver clear communications at all work sites so that all Controllers of Site Safety are made aware of work to take place at that site, when it will occur and the implications for their system of work.		
Comment		
ORR has reported that Jarvis Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	4	Status: In-progress
Network Rail should review the conditions permitting the installation of fences next to tracks open to traffic at normal line speed in order to facilitate their greater provision adjacent to work sites.		
Comment		
Network Rail has carried out a review in response to this recommendation. Network Rail propose no further action.		
ORR is seeking further information.		
RECOMMENDATION	5	Status: Implemented
Jarvis Rail, in consultation with Network Rail, should investigate the provision of lighting which can be installed with sufficient stability adjacent to lines open to traffic.		
Comment		
ORR has reported that Jarvis Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	6	Status: In-progress
Network Rail, in consultation with the users of Trac Rail Transposers, should review the conditions of their operation, when they work in close proximity to lines that are open to traffic, with particular reference to the effect of the exclusion zone on the safe passage of trains.		
Comment		
Network Rail has outlined the actions to be taken in response to the recommendation.		
ORR is seeking further information.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Locomotives	Between Leigh-on-Sea and Chalkwell	06:27	26 April 2008	Collision with other train
RAIB Report No:	24/2009		Published:	14 September 2009

Summary

At about 06:27 hrs on Saturday 26 April 2008 locomotive 66719 working engineer's train 6T64, collided with the rear of train 6T63 between Leigh-on-Sea and Chalkwell within a work site between Pitsea Junction and Shoeburyness. Two wagons on train 6T64 were severely damaged. Both lines were closed to normal traffic at the time of the collision.

Recommendations **Seven recommendations are made**

RECOMMENDATION**1****Status: Non-implementation**

Network Rail should introduce a procedure that will provide a written record of instructions between the Engineering Supervisor, train driver and 'competent person' with verbal read back to confirm an understanding of the planned movement.

Comment

Network Rail has reported that in response to this recommendation a joint industry workshop, chaired by the RSSB, was convened in February 2010 to consider a number of incidents involving train movements within possessions. This concluded that the application of existing rules should have been sufficient to control the risk. It considered full application of recommendation not to be justified.

ORR is seeking from Network Rail an indication of the actions to be taken to ensure correct application of the rules.

RECOMMENDATION**2****Status: Implemented**

Network Rail should incorporate a challenge stage within the planning process so that possession and work site length are minimised and that planned train movements are operationally risk assessed.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**3****Status: In-progress**

Network Rail should modify procedures so that, if a specific risk is identified from the risk assessment (Recommendation 2), such as train movements over long distances within a work site, the risk is documented in the hazard list within the PICOP pack.

Comment

Network Rail has outlined the actions to be taken in response to the recommendation.

ORR is seeking further information.

RECOMMENDATION**4****Status: Implemented**

Balfour Beatty should introduce a process so that staff involved with train movements within the work site have accurate knowledge of train positions.

Comment

ORR has reported that Balfour Beatty has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

1 National Network(s)

RECOMMENDATION	5	Status: Implemented
Network Rail should modify the Engineering Supervisors Training Manual to accurately reflect the specification within its company standard relating to the requirement on the Engineering Supervisor to give precise and explicit instructions to drivers or a 'competent person'.		
Comment		
ORR has reported that Network Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Wraysholme crossing, Flookburgh, Cumbria	12:30	3 November 2008	Level crossing fatality
RAIB Report No:	26/2009	Published:	7 October 2009	

Summary
At 12:30 hrs on Monday 3 November 2008, the 09:27 hrs service from Carlisle to Lancaster struck a northbound car on Wraysholme crossing, Flookburgh, Cumbria. The car driver was fatally injured.
Recommendations
Five recommendations are made

RECOMMENDATION	1	Status: Implemented
<i>The intention of this recommendation is to ensure that road users are able to discern the aspects of road traffic signals that protect automatic level crossings in all foreseeable conditions.</i>		
<ul style="list-style-type: none"> a. revise its method of automatic level crossing inspection and assessment so that it identifies road traffic signals that are difficult to discern because of the effect of sunlight, lamp unit performance and alignment; and b. draw up and implement a programme to improve the identified crossings, with those presenting the highest risk improved ahead of those of lower risk. 		
Comment		
ORR has reported that Network Rail has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

RECOMMENDATION	2	Status: In-progress
<p><i>The intention of this recommendation is to ensure that Network Rail complies with industry standards, recommendations and its own processes and procedures for level crossing inspection and assessment, so far as is reasonably practicable.</i></p> <p>Network Rail should review and revise its management systems to confirm that it carries out its level crossing inspections and assessments correctly and completely. It should pay particular attention to making certain that it:</p> <ol style="list-style-type: none"> issues its staff with the appropriate versions of the standards, documents and procedures they require; upgrades crossings when required to do so, and considers upgrade or closure when the opportunity arises; identifies high risk crossings where the required site visits have not taken place; carries out the site visits arising from 2(c) to identify and assess measures to reduce risk; and implements those measures that are approved, improving the crossings presenting the highest risk ahead of those of lower risk. 		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		
RECOMMENDATION	3	Status: In-progress
<p><i>The intention of this recommendation is to provide clear instruction to road users that they should continue normally over Wraysholme crossing, and only stop when the road traffic signals show.</i></p> <p>Cumbria County Council should have the 'STOP' road markings entirely removed from the road surfaces adjacent to the crossing's north and south approaches.</p>		
Comment		
<p>Cumbria County Council has outlined actions to be taken action in response to the recommendation.</p>		
RECOMMENDATION	4	Status: In-progress
<p><i>The intention of this recommendation is to ensure that northbound road users of Wraysholme crossing are made aware of the approach of another train in all foreseeable conditions.</i></p> <p>Network Rail should replace the south facing 'ANOTHER TRAIN COMING' signal at Wraysholme crossing with an improved signal or other method that is discernible by users in all foreseeable conditions.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		
RECOMMENDATION	5	Status: In-progress
<p><i>The intention of this recommendation is to ensure that train speed is appropriate for foreseeable road vehicle use at automatic open locally monitored level crossings.</i></p> <p>The Office of Rail Regulation should revise its guidance on automatic open locally monitored level crossings to:</p> <ol style="list-style-type: none"> recognise that local and seasonal events may result in temporarily increased road vehicle use; and advise on how any such increased road vehicle use should be considered when calculating maximum train speed. 		
Comment		
<p>ORR has outlined the actions to be taken in response to the recommendation.</p>		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): On-track plant / machinery	Road-Rail Vehicles (Class investigation)	05:43	23 May 2008	Runaway incident
RAIB Report No:	27/2009	Published:	29 October 2009	

Summary

An investigation carried out by the Rail Accident Investigation Branch (RAIB) into runaways and collisions involving road-rail vehicles (RRVs) and trailers that couple to them. The RAIB was concerned by the number of these events occurring on the main line railway operated by Network Rail and therefore decided to carry out this class investigation.

Recommendations

Three recommendations are made

RECOMMENDATION

1

Status: In-progress

The intention of this recommendation is that Network Rail should manage the specification, design, operation and maintenance of RRVs acquired after the issue of this report using a systems engineering process, incorporating formal safety analysis methods.

Network Rail should implement a process that manages the specification, design, operation and maintenance of RRVs on its network throughout their system lifecycle. The process should include the following elements:

- a) a high level requirements specification of the task;
- b) a safety requirement specification, including the application of safety analysis techniques such as Hazops, FMEA and FTA;
- c) specifications relating to the plant, the relevant personnel and the applicable procedures;
- d) RRV configuration management systems;
- e) verification and validation requirements;
- f) site inspections and audits of the arrangements; and
- g) a change control process.

Comment

Network Rail has outlined the actions to be taken in response to the recommendation.

ORR is seeking further information.

RECOMMENDATION	2	Status: In-progress
<p>Network Rail should assess the operation of existing RRVs and trailers to satisfy itself, on the basis of a process of structured safety analysis, that there are adequate technical and operational controls to prevent RRVs running away. The assessment should take account of the factors listed below and consider the reliability of the primary controls identified. It should identify any realistically possible failures of the primary controls, and where these are identified, what emergency control measures (which may be implemented through operator training) should be put in place. Network Rail should amend their processes as appropriate to implement any improved controls identified.</p> <p>The factors for consideration should include:</p> <ol style="list-style-type: none"> a) the use of trailers that are not fitted with service brakes; b) for each type of RRV, a specific procedure covering the method of on- and off-tracking; c) the operation of RRVs without braked rail wheels; d) the operation of RRVs which rely on an interface between rubber and steel for traction and braking giving rise to extended and unknown braking distances in wet/contaminated conditions and on gradients; e) the content of operator and machine controller training courses as they relate to: <ul style="list-style-type: none"> • driving on wet and/or contaminated railway lines; • the use of the emergency stop button; • the awareness of any gradient hazard and its effect on machine operation; • the recovery from runaway events; and • the measures required to ensure that travel movements are carried out safely. f) the adequacy of maintenance documentation in relation to the maintenance of the rubber and steel interface, including tyre condition, tyre pressure and the correct adjustment of the rail gear; g) whether brake lights would reduce the likelihood of collision when RRVs undertake multiple transits in a work site; h) the location of RRAPs, the arrangements for possessions and work sites and their effect on RRV travel distances; i) the adequacy and the practicality of the system of pre-use checks of RRVs and trailers; j) the adequacy of planning processes which should assess the risk of RRV operation on wet and/or contaminated rails, as well as gradients, and include specifically notifying its contractors and suppliers of the possible effect on machine operation and the specific mitigation measures that may be required; k) the briefing of machine controllers so that they can brief operators about the gradients that RRVs will be working on, the likely effect on machine operation and any required mitigation measures; and l) the absence of signage at RRAPs and inclusion of information in the sectional appendix stating the gradient of the railway. 		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		

RECOMMENDATION	3	Status: In-progress
<p><i>The intention of this recommendation is that Network Rail should reduce the amount of under-reporting of accidents and incidents involving RRVs and their trailers.</i></p> <p>Network Rail should review the system of reporting accidents and incidents involving RRVs and trailers, and make any changes that would reduce the amount of under-reporting.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 59 Locomotive	East Somerset Junction	02:40	10 November 2008	Freight train derailment
RAIB Report No:	28/2009	Published:	10 November 2009	

Summary

At approximately 02:40 hrs on Monday 10 November 2008, the two locomotives hauling train 7A91, the delayed 22:31 hrs (Sunday) service from Merehead Quarry to Acton Yard, derailed on trap points at East Somerset Junction. Nobody was injured in the accident. The derailment caused damage to the track in the vicinity of the points. The position of the two locomotives made re-railing them difficult and it was not accomplished until 06:12 hrs on Tuesday 11 November 2008. The Merehead branch was reopened at 12:40 hrs the same day.

Recommendations **Eleven recommendations are made**

RECOMMENDATION

1

Status: In-progress

The purpose of this recommendation is for Network Rail to introduce a 'self-checking' procedure for staff working on their own, to be used when they are required to implement procedures to deal with specified types of equipment failure:

Network Rail should consider how signallers working on their own can affirm that they have taken the correct actions when implementing procedures to cope with equipment failures that result in a degraded level of safety, and issue requirements to the routes on this subject. The guidance should identify whether there are any circumstances under which it will be mandatory for signallers to obtain verification of their actions by a second competent person, taking into account risk associated with speeds, frequency of movements and traffic type and include consideration of human factors.

Comment

Network Rail has outlined the actions to be taken in response to the recommendation.

ORR is not content with dutyholder response, further engagement ongoing / proposed.

RECOMMENDATION

2

Status: Implemented

The purpose of this recommendation is for Network Rail to improve the current rostering arrangements for signallers at Westbury by reducing or eliminating twelve-hour night shifts:

Network Rail Western Route should review the current roster pattern at Westbury Power Signal Box to reduce the duration of, or eliminate, twelve-hour night shifts and make changes to the roster as appropriate.

Comment

ORR has reported that Network Rail Western Route has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION	3	Status: In-progress
<p><i>The purpose of this recommendation is for Network Rail to extend the use of the Fatigue and Risk Index or apply other suitable assessment tools to proposed or amended rosters for signallers and other safety-critical staff:</i></p> <p>Network Rail should develop criteria to determine the circumstances under which proposed or amended rosters to be worked by signallers and other safety-critical staff should be evaluated using the Fatigue and Risk Index or other suitable assessment tools (with the aim of ensuring that defined thresholds are not exceeded) and provide guidance to the routes on this subject.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		
RECOMMENDATION	4	Status: In-progress
<p><i>The purpose of this recommendation is for Network Rail to enhance company standard NR/SP/ERG/003 by widening its focus to incorporate an extended set of limits on working time:</i></p> <p>Network Rail should amend its company standard NR/SP/ERG/003 to include an extended set of limits on working time for safety-critical staff, considering the scope and range of parameters applied to air traffic controllers, the guidance contained in the ROGS regulations, use of both the fatigue and risk elements of the Fatigue and Risk Index and advice from their human factors department.</p>		
Comment ▲		
<p>Network Rail is carrying out a detailed review of the recommendation and is drafting a new standard.</p> <p>ORR has concluded that Network Rail has taken the recommendation into consideration and is taking action to implement it.</p> <p>The RAIB has written to the ORR to express concern that it appears Network Rail has yet to fully address the staff fatigue risks identified in the East Somerset Junction and Grayrigg (20/2008) investigations and that there is still a need to establish clear thresholds on working time in the context of an overall fatigue management system.</p> <p>The ORR has informed the RAIB that it is proposing to monitor the effectiveness of the actions taken by Network Rail to assess whether the intent of these recommendations is met.</p>		
RECOMMENDATION	5	Status: In-progress
<p><i>The purpose of this recommendation is for ORR to ensure that Network Rail is making timely and adequate progress in implementing Recommendation 4 and to take suitable action if they are not satisfied:</i></p> <p>The ORR should agree with Network Rail appropriate timescales for the implementation of Recommendation 4 and devise a programme of intervention to ensure that Network Rail develops and implements adequate measures, as described in Recommendation 4, to address the risk arising from fatigue within those timescales. If the ORR is not satisfied that Network Rail's proposals to change standard NR/SP/ERG/003 address the risk, or consider that insufficient progress is being made, the ORR should consider devising and implementing its own set of working time limits to be applied to Network Rail's safety-critical staff.</p>		
Comment		
<p>ORR is reviewing the progress of Network Rail for the implementation of recommendation 4.</p> <p>RAIB has concerns that the actions of Network Rail do not appear to fully address the risks identified by the investigation.</p>		
RECOMMENDATION	6	Status: Implemented
<p><i>The purpose of this recommendation is for Network Rail to ensure that there is adequate human factors' input to decisions taken at Recommendations Review Panels:</i></p> <p>Network Rail should include on its Recommendations Review Panels a representative from the human factors department with full membership status.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

RECOMMENDATION	7	Status: In-progress
<p><i>The purpose of this recommendation is for Network Rail to improve its processes for monitoring causes of previous accidents and incidents and for reviewing the effectiveness of recommendations previously made:</i></p> <p>Network Rail should develop and implement a monitoring system that will enable its Recommendations Review Panels to identify recurring causes in all investigations into accidents and incidents on, or relevant to, its network and to enable them to identify whether previous responses to relevant recommendation have been effective.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		
RECOMMENDATION	8	Status: In-progress
<p><i>The purpose of this recommendation is for Network Rail, Western Route to make greater use of simulators to help signallers to maintain their competence:</i></p> <p>Network Rail Western Route should arrange for signallers to practise a range of infrequently encountered situations (such as the introduction of pilot working) on a simulator at regular intervals within the three-year competence cycle.</p>		
Comment		
<p>Network Rail Western Route has outlined the actions to be taken in response to the recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	9	Status: Implemented
<p><i>The purpose of this recommendation is for Network Rail to make greater use of simulation techniques to help controllers maintain their competence in responding to emergency incidents:</i></p> <p>Network Rail should introduce simulated emergency exercises for all controllers who have not experienced handling NRN emergency messages during the three-year competence cycle.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	10	Status: Implemented
<p><i>The purpose of this recommendation is for Network Rail to enhance its standards, training and reference material for controllers to assist them when they are notified of an accident:</i></p> <p>Network Rail should amend company standard NR/L3/OCS/043/2.1 to identify key information to be gathered by controllers when receiving an NRN emergency call, or when they are advised of an accident having made a NRN emergency call, and ensure that training and reference material for controllers encompasses this change.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

RECOMMENDATION	11	Status: Implemented
<p><i>The purpose of this recommendation is to provide Network Rail managers with greater clarity over the circumstances under which it is necessary to arrange relief for signallers who have been involved in an accident or incident:</i></p> <p>Network Rail should enhance guidance contained in Procedure 2-05 of the Operations Manual to define the factors that should be taken into account when deciding whether a signaller who has been involved in a serious accident should be allowed to remain on duty. This guidance should include reference to volume of train movement expected, consideration of whether the signaller is working on his/her own and the maximum time that they can be permitted to continue working.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 165 DMU	Kennington Junction	21:47	23 May 2008	Staff hit by train (Injury)
RAIB Report No:	29/2009	Published:	12 November 2009	

Summary
<p>At 21:47 hrs on 23 May 2008, a passenger train travelling from Paddington to Oxford struck and seriously injured a signalling technician who was working on a set of points at Kennington Junction, Oxfordshire. As a result of the injuries received, the technician later had one leg amputated. There was no damage to the train or railway infrastructure.</p>
<p>Recommendations Three recommendations are made</p>

RECOMMENDATION	1	Status: Implemented
<p><i>The intention of this recommendation is to develop and adopt suitable work methods to protect people from being struck by trains and which do not affect the safety of trains.</i></p> <p>Network Rail should investigate the development and subsequent adoption of practical alternative working methods that will provide protection of staff when undertaking regular specific maintenance activities such as work on switches and crossings, and that will provide for the safety of trains. If practicable it should introduce these alternative working methods.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

RECOMMENDATION	2	Status: In-progress
<p><i>The intention of this recommendation is enable staff undertaking a specific maintenance activity to be clear about whether a particular form of protection that they wish to use provides for the safety of staff and trains. In particular it addresses the need to promote a better understanding of when T2 and T12 protection may be used and the restrictions imposed by the Rule Book and Network Rail instructions. It should encompass all forms of protection and regular maintenance activities including facing point lock tests and should clarify any issues relating to the 'safety of the track' and the 'safety of trains'.</i></p>		
<p>Network Rail should introduce a system whereby staff undertaking a specific maintenance activity can obtain clear guidance that a particular form of protection is suitable and provides for the safety of staff and trains. It should include clear guidance on when T2 and T12 protection may and may not be used and their applicability to specific types of work which may affect the 'safety of the track' and the 'safety of trains'.</p>		
<p>Comment</p>		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		
RECOMMENDATION	3	Status: In-progress
<p><i>The intention of this recommendation is to avoid doubt for those applying the requirements of the Rule Book.</i></p>		
<p>Network Rail, in conjunction with the RSSB, should clearly define, as a minimum, what is meant by:</p> <ul style="list-style-type: none"> • 'affect the safety of the line'; • 'affect the safety of trains'; • 'affect the safety of train working'; and • 'affect the normal passage of trains'. 		
<p>Comment</p>		
<p>Network Rail has outlined the actions to be taken in response to the recommendation. ORR is seeking further information.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 313 25kv EMU	Dalston Junction	12:43	30 March 2009	Staff hit by train (Injury)
RAIB Report No:	30/2009	Published:	19 November 2009	

Summary

At 12:43 hrs on 30 March 2009 a passenger train from Richmond to Stratford, travelling at about 15 mph (25 km/h), struck a railway worker on the track at Dalston Junction, north London. The worker's role was to look out for approaching trains, and warn the rest of the group that he was working with. The track worker was struck on the head and thrown to the ground. He was taken to hospital, but was not seriously injured and has since made a full recovery.

Recommendations Three recommendations are made

RECOMMENDATION**1****Status: In-progress**

Carillion Construction Ltd, through its Carillion Rail business unit, should review its processes for mobilisation of projects following contract award, so that these processes include arrangements for staff to become familiar with the areas in which they will work, and the provision of suitable and sufficient resources to facilitate this.

Comment

Carillion Construction Ltd has outlined the actions to be taken in response to the recommendation.
ORR is seeking further information.

RECOMMENDATION**2****Status: In-progress**

Carillion Construction Ltd, through its SkyBlue Rail business unit, should revise its operating procedures to include processes to enable people supplied to work in safety critical roles to be familiar with the locations where they are to work, either by previous experience or, where this is not the case, with familiarisation by an appropriate means provided by the client.

Comment

Carillion Construction Ltd has outlined the actions to be taken in response to the recommendation.
ORR is seeking further information.

RECOMMENDATION**3****Status: In-progress**

Carillion Construction Ltd, through its Carillion Rail business unit, should review its safety management policies and procedures relevant to the protection of people on or near the line that are used in the North London Railway Infrastructure Project and revise them where necessary, so that they are complete and coherent and describe a safety management system that is suitable and effective for the protection of the people who are working on or affected by the project.

Comment

Carillion Construction Ltd has outlined the actions to be taken in response to the recommendation.
ORR is seeking further information.

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): 28 curtain-sided containers	Penrith and Eden Valley Loop	16:02	4 July 2009	Out of gauge train collision
RAIB Report No:	31/2009	Published:	19 November 2009	

Summary

On 4 July 2009 train 4M16 was travelling from Scotland to Daventry, when two freight container doors came open, probably as a result of criminal action. They struck three passenger trains on the West Coast Main Line, a TransPennine Express class 185 at 16:02 hrs as train 4M16 passed through Penrith station, a Virgin trains class 390 Pendolino at 16:18 hrs and a Virgin Trains class 221 Super Voyager at 16:27 hrs, both while train 4M16 was stationary at Eden Valley loop. There were no casualties as a result of the collisions; however the container doors and the passenger trains were all damaged.

Recommendations Three recommendations are made

RECOMMENDATION

1

Status: In-progress

The intention of this recommendation is to reduce the risk of container doors being opened by criminal attack.

Direct Rail Services and DB Schenker should review their existing control measures to secure container doors, and consider whether stronger seals, such as heavy-duty security seals, would reduce the risk of doors being vandalised and coming open outside of the loading gauge.

Comment

Freightliner and Direct Rail Services have implemented actions, further information awaited from DB Schenker and Colas Rail.

ORR is seeking further information.

RECOMMENDATION

2

Status: In-progress

The intention of this recommendation is to reduce the risk of open container doors being carried on existing wagons striking trains on adjacent lines, or striking passengers on stations or staff on track.

Freight Operating Companies should investigate, and, where reasonably practicable, implement, measures so that open container doors cannot swing outside the loading gauge.

Comment

Freight Operating Companies have outlined the actions to be taken in response to the recommendation.

ORR is seeking further information.

RECOMMENDATION

3

Status: In-progress

The intention of this recommendation is to minimise the risk of open container doors being carried on future wagons striking trains on adjacent lines, or striking passengers on stations or staff on track.

Freight Operating Companies should amend their specifications for future builds of container wagons to include measures that prevent open container doors swinging outside the loading gauge.

Comment

Direct Rail Services and Colas Rail have indicated that action will be taken when procuring new wagons. DB Schenker have rejected the recommendation. Further information sought from GB Railfreight.

ORR is seeking further information.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 DMU	Bayles & Wylies FPC, Bestwood, Nottingham	18:38	22 November 2008	Level crossing fatalities
RAIB Report No:	32/2009	Published:	19 November 2009	

Summary

At about 18:38 hrs on 22 November 2008 a train struck and killed a woman and child who were using Bayles and Wylies footpath level crossing.

Recommendations

Eight recommendations are made

RECOMMENDATION**1****Status: Implemented**

The purpose of this recommendation is to address the unique risks of Bayles and Wylies crossing.

Network Rail and Nottingham Express Transit should install signs at the outer extremes of the Bayles and Wylies level crossing, and at the exits from the central refuge, warning pedestrians who are about to cross the lines that trains and trams can approach in either direction at any time on both the railway and the tramway.

Comment

ORR has reported that Network Rail has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**2****Status: Implemented**

The purpose of this recommendation is to improve the safety of Bayles and Wylies crossing by adjusting the illumination to optimise:

- *the visibility of the crossing deck for pedestrians, including discerning the edges of the crossing surface;*
- *the visibility of pedestrians for train drivers;*
- *the visibility of train headlights for pedestrians; and*
- *the minimisation of dazzle in the vision of train drivers.*

Network Rail and Nottinghamshire County Council should jointly assess the lighting of Bayles and Wylies level crossing, and if necessary alter it so that it is adequate for pedestrians to clearly see where they are walking when crossing the line.

Comment

ORR has reported that Network Rail and Nottinghamshire County Council have taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

1

National Network(s)

RECOMMENDATION	3	Status: Implemented
<p><i>The purpose of this recommendation is to reduce the unique risks of Bayles and Wylies crossing to as low as reasonably practicable:</i></p> <p>Network Rail, together with NET, should re-assess Bayles and Wylies crossing and establish if the installation of additional protective measures, such as a miniature warning light system, are required.</p>		
Comment ▲		
<p>ORR has reported that Network Rail and NET carried out a review and concluded that it is not practicable to install additional measures.</p> <p>ORR has reviewed the information from NET and had sight of the cost benefit analysis from Network Rail. ORR has concluded that whilst it does not accept all of the logic in the arguments presented, it does not believe the evidence available supports additional protective measures at this crossing at the present time. ORR does not therefore propose to take any further action.</p> <p>The RAIB notes the above conclusion but is of the view that additional measures may still be required to address the local risk factors identified in the investigation. These included the close proximity of a tramway, inadequate illumination and the angle of the crossing deck.</p>		
RECOMMENDATION	4	Status: Implemented
<p><i>The purpose of this recommendation is to allow for differing conditions at level crossings in hours of darkness.</i></p> <p>Network Rail should revise their procedures for assessing and inspecting level crossings so that they allow for differing conditions in hours of darkness, allowing for the variable levels of luminous intensity from train night-time headlights, the variable duration of train horns and their sound levels relative to ambient noise and for the period when drivers do not sound their horns.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: Implemented
<p><i>The purpose of this recommendation is to ensure crossings are reviewed to maintain their risk as low as is reasonably practicable.</i></p> <p>Network Rail should amend their processes to re-assess crossings when circumstances at the location have changed to include instances when lines have, or are planned to be, closed.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	6	Status: In-progress
<p><i>The purpose of this recommendation is to prevent different sighting distances or other key dimensions being recorded for the same level crossing.</i></p> <p>Network Rail should revise its management processes for inspecting and assessing level crossings to compare previous inspections and assessments, and identify and resolve any substantial variations in the data presented.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR is seeking further information.</p>		

RECOMMENDATION	7	Status: In-progress
<p><i>The purpose of this recommendation is to establish consistent and adequate levels of luminous intensity from night-time headlights of trains using the Network Rail system.</i></p> <p>The Rail Safety and Standards Board should evaluate the risk from the operation of trains with less luminous intensity from night-time headlights than that required from current railway group standards. If the risk is considered unacceptable the RSSB should propose, in accordance with the group standards code, changes to railway group standards to require all trains operating on the Network Rail system to be brought up to, and maintained at, an acceptable standard of luminous intensity within a defined timescale.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation (details). ORR is seeking further information.</p>		

RECOMMENDATION	8	Status: In-progress
<p><i>The purpose of this recommendation is to apply the lessons of this accident to other similar crossings.</i></p> <p>Nexus and Network Rail should review the pedestrian level crossings at South Drive and Benton Square jointly and apply any relevant learning points from this investigation to them.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation (details). ORR is seeking further information.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 221 DEMU "Super Voyager"	North Rode	17:58	18 December 2008	Collision with an obstacle
RAIB Report No:	33/2009		Published:	14 December 2009

Summary	
<p>At 17:58 hrs on 18 December 2008, southbound passenger train reporting number 2K14, the 17:10 hrs service from Manchester Deansgate to Stoke-on-Trent, was running between Macclesfield and Congleton when it struck an unoccupied car that had rolled from a car park down onto the track. The train derailed before braking to a stop.</p>	
Recommendations	Three recommendations are made

RECOMMENDATION	1	Status: Implemented
<p><i>The intention of Recommendation 1 is to reduce the likelihood and consequences of vehicle incursion from North Rode depot onto the railway.</i></p> <p>Network Rail should advise UPS of the arrangements to inform it immediately a road vehicle enters the railway from the depot.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

1 National Network(s)

RECOMMENDATION	2	Status: Implemented
<p><i>The intention of Recommendation 1 is to reduce the likelihood and consequences of vehicle incursion from North Rode depot onto the railway.</i></p>		
<p>UPS should assess the risk of vehicle incursion from the depot onto the railway and make arrangements so that:</p> <ul style="list-style-type: none"> a) those risks are eliminated or reduced, by placing a barrier at the railway boundary that is sufficient to prevent vehicle incursion onto the track, or other equally effective measures; and b) its emergency procedures require its staff to inform Network Rail immediately a road vehicle enters the railway. 		
<p>Comment</p>		
<p>UPS has reported that it has taken actions in response to this recommendation.</p> <p>HSE proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	3	Status: In-progress
<p><i>The intention of Recommendation 3 is to reduce the risk of incursion from private land onto Network Rail infrastructure.</i></p>		
<p>Network Rail should:</p> <ul style="list-style-type: none"> a) establish a method for assessing their infrastructure to identify the sites where the risk of incursion from private land is highest; and b) liaise with private land controllers, the Health and Safety Executive and local authorities to secure the improvement of the identified sites by those responsible for them. 		
<p>Comment</p>		
<p>Network Rail has outlined the actions to be taken in response to the recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Investigation summaries and recommendations for National Networks that have been reported on by the Safety Authority or are awaiting responses from reports published in 2010

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 90 Locomotive	Marks Tey, Essex	14:05	12 June 2008	Freight train derailment
RAIB Report No:	01/2010		Published:	14 January 2010

Summary

At 14:05 hrs on 12 June 2008, a wheelset on a wagon within train number 4L41, the 08:05 hrs Daventry to Felixstowe service operated by Freightliner, derailed as it passed through Marks Tey junction, located on Network Rail's Great Eastern Mainline. A second wheelset on the same bogie subsequently also derailed. Two members of staff received minor injuries as a result of the derailment, which also caused damage to the infrastructure and rolling stock involved. The line was re-opened fully on the morning of 13 June 2008.

Recommendations **Seven recommendations are made**

RECOMMENDATION

1

Status: Awaiting response

The intention of this recommendation is to reduce the risk of derailment of FSA/FTA wagons.

Freightliner should examine if appropriate mitigation action can be taken that will reduce the risk of derailment of FSA/FTA wagons when travelling over the track vertical alignment profiles which could reasonably be encountered in service. This should take into account the full range of load conditions and train speeds permitted for the wagons. Freightliner should implement any appropriate mitigation found during this examination.

Comment

Awaiting response

RECOMMENDATION

2

Status: Awaiting response

The intention of this recommendation is to address omissions in inspections identified within the Colchester Maintenance Delivery Unit.

Network Rail should carry out a review to assure itself that staff at Colchester Maintenance Delivery Unit are correctly undertaking the following tasks:

- supervisor's visual inspections, particularly the inspection of drainage, and the reporting of drainage defects; and
- the inspection of the line following the completion of work and the re-opening of the line to traffic.

Comment

Awaiting response

RECOMMENDATION

3

Status: Awaiting response

The intention of this recommendation is to ensure the correct management of repeated defects from track recording train outputs within Colchester Maintenance Delivery Unit.

Network Rail should review the arrangements by which Colchester Maintenance Delivery Unit manages:

- repeated track geometry defects;
- repeated eighth-mile sections where the track geometry exceeds maximum and target standard deviation values;

and implement any necessary improvements.

Comment

Awaiting response

1

National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p><i>The intention of this recommendation is to ensure that there is sufficient provision of access to the line within the area managed by Colchester Maintenance Delivery Unit to carry out all required inspections of the track.</i></p> <p>Network Rail should:</p> <ul style="list-style-type: none"> review the arrangements within Colchester Maintenance Delivery Unit that allow staff to undertake inspections of the line within areas; identify where there are difficulties of access, such as red-zone prohibited areas; <p>and implement any necessary improvements.</p>		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: Awaiting response
<p><i>The intention of this recommendation is that preventative maintenance tasks are appropriately planned and briefed.</i></p> <p>Network Rail should revise 'Track Maintenance Handbook' NR/L3/TRK/002 Issue 4 to add a requirement to undertake appropriate formal planning and briefing of staff prior to undertaking preventative maintenance tasks within its remit.</p>		
Comment		
Awaiting response		
RECOMMENDATION	6	Status: Awaiting response
<p><i>The intention of this recommendation is that actions intended to prevent the reoccurrence of broken rails are identified and undertaken.</i></p> <p>Network Rail should revise its procedures relating to the reporting of broken rails to require:</p> <ul style="list-style-type: none"> the production of formal action plans which will identify the actions proposed to prevent reoccurrence; a formal approval process for such action plans; and formal periodic review of progress against the action plans by an appropriate competent person. 		
Comment		
Awaiting response		
RECOMMENDATION	7	Status: Awaiting response
<p><i>The intention of this recommendation is that timber bearer replacements are subjected to post-installation inspection to confirm adequate consolidation.</i></p> <p>Network Rail should revise work instruction NR/L3/TRK/002/G06 Issue 2.0 relating to the replacement of timber bearers, in order to add a requirement for an appropriate post-installation check of the work-site for ballast consolidation.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Co-Co diesel-electric Locomotive	Stewarton, Ayrshire	06:12	27 January 2009	Freight train derailment
RAIB Report No:	02/2010	Published:	3 February 2010	

Summary

At 06:12 hrs on 27 January 2009 the last six tank wagons of train 6B01, a ten wagon dangerous goods train carrying a mixed consignment of gas oil, diesel and kerosene to a fuel depot south of Kilmarnock, derailed as the train crossed a metal underbridge south of Stewarton, Ayrshire. The bridge, which takes the railway over the A735 road, collapsed and the derailed wagons overturned, coming to rest at various positions to the south of the bridge. Fuel from four of the derailed wagons leaked into the local environment and watercourses, and there were localised fires. There were no fatalities or injuries.

Recommendations**Twelve recommendations are made****RECOMMENDATION****1****Status: Awaiting response**

The purpose of this recommendation is to establish whether there are other bridges with construction features similar to Bridge 88 that are in an unsafe condition, and to take appropriate action.

Network Rail should identify metal bridges having features that could conceal corrosion occurring on critical structural parts. It should take intervention action as necessary to secure the safety of trains and the public.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The intention of this recommendation is to prevent hidden critical structural elements of bridges remaining unexamined where there is a risk of deterioration in structural integrity.

Network Rail should develop criteria for when hidden critical structural parts of bridges should be examined, and apply them to its processes for the management of bridges.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The intention of this recommendation is to develop effective and practical methods for examining the hidden parts of bridges.

Network Rail should produce and implement guidance on what methods should be routinely used to examine parts of metal bridges that are permanently hidden by ballast, waterproofing arrangements, or other similar construction features (such as work to remove concealing features or use of remote inspection probes). It should require those undertaking bridge examinations to use such methods, as appropriate, when examinations are demanded by the criteria developed in response to Recommendation 2.

Comment

Awaiting response

1 National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p><i>The intention of this recommendation is that new structures should not be constructed, nor existing structures modified, in a way that prevents access to parts that need routine inspection or examination (not all hidden parts may need to be inspected; in certain situations it may be possible to put alternative arrangements in place to verify structural integrity).</i></p> <p>Network Rail should review its standards and procedures for the design and approval of new and modified bridges, and their implementation, and make necessary changes to confirm that:</p> <ul style="list-style-type: none"> the designer identifies the parts that need to be periodically inspected in order to verify structural integrity; the designer designs the works with access to permit examination of such parts; the checker of the design confirms that the design includes suitable provision for the routine examination of such parts; designs that do not meet the criteria listed above are not approved for construction; and procedures for the examination of such works take into account the inspection needs identified by the designer, and the access means provided. 		
Comment		
Awaiting response		

RECOMMENDATION	5	Status: Awaiting response
<p><i>The intention of this recommendation is to make improvements to ensure that those responsible for making decisions regarding the structural safety of Network Rail's bridges are suitably informed and have access to a single collection of valid information for each bridge.</i></p> <p>Network Rail should review its processes for the management of bridges, and their implementation, and make changes to confirm that:</p> <ul style="list-style-type: none"> a single list referencing the most up-to-date information regarding the history, condition and assessed capacity of each bridge is made available, in an appropriate format, to those making decisions regarding its structural safety; there is a formal means of alerting Network Rail to urgent findings arising from assessment work; all decisions regarding exposing hidden critical structural parts during examinations, and the justification supporting these decisions, are included in the bridge records; the evaluation process includes consideration of the corroded condition of load bearing members, and guidance so that the effects of corrosion are understood and taken into account; all decisions regarding intervention actions critical to the structural integrity of the bridge, made as a result of an evaluation, or otherwise, are recorded with the bridge records, including a record of the justification for the decision; the implementation status of any intervention actions that are critical to structural integrity, and any outstanding risk issues, are included in the bridge records; and any urgent defect reports and the action taken as result, together with the supporting justification, are included in the bridge records. 		
Comment		
Awaiting response		

RECOMMENDATION	6	Status: Awaiting response
<p><i>The intention of this recommendation is for Network Rail to ensure that the condition of previously recorded outstanding defects in critical structural elements continues to be monitored by the appropriate subsequent examination or inspection.</i></p> <p>Network Rail should review its processes and make necessary changes so that previously reported defects affecting structural integrity that are not reported in subsequent examinations and inspections are identified; the revised processes should be such that all such discrepancies are resolved.</p>		
Comment		
Awaiting response		

RECOMMENDATION	7	Status: Awaiting response
<p><i>The intention of this recommendation is to establish if the assessment results of other bridges are incorrect because of critical dimensional assumptions, or inadequate allowance for material loss on load bearing members due to corrosion.</i></p> <p>Network Rail should identify all underbridge assessments where, for load bearing members, there have been reports of severe corrosion that has not been accounted for, or critical dimensions have been assumed, and take suitable steps to secure the safety of trains and the public.</p>		
Comment		
Awaiting response		

RECOMMENDATION	8	Status: Awaiting response
<p><i>The intention of this recommendation is to prevent there being errors in the assessment results of bridges in the future because of critical dimension assumptions or inadequate allowance for material loss on load bearing members due to corrosion.</i></p> <p>Network Rail should review its procedures for the assessment of structures, and make necessary changes, to:</p> <ul style="list-style-type: none"> • forbid the use of key dimensional information for load bearing members that has not been verified, either on site, or from as-built drawings; and • specify the criteria for when the corroded condition of load bearing members must be assessed. 		
Comment		
Awaiting response		

RECOMMENDATION	9	Status: Awaiting response
<p><i>The intention of this recommendation is that appropriate action is taken in the event of future reports of urgent defects on bridges.</i></p> <p>Network Rail should review its procedures for the management of structures, and their implementation, and make changes to confirm that reports of urgent defects are:</p> <ul style="list-style-type: none"> • reliably delivered to the correct personnel; and • used to develop and implement appropriate actions. 		
Comment		
Awaiting response		

1 National Network(s)

RECOMMENDATION	10	Status: Awaiting response
<p><i>The intention of this recommendation is to take advantage of information that is already recorded for track maintenance purposes so that Network Rail can use the information to alert its staff to potential structural issues with railway underbridges; this recommendation is an extension of recommendation 4 that RAIB made following its investigation of a freight train derailment on 25 January 2008 at Santon, near Foreign Ore Branch Junction, Scunthorpe.</i></p> <p>Network Rail should evaluate the feasibility of using the track geometry data recorded by its track measurement trains so that trends can be seen that could be used to identify underbridges that may have degraded to an unsafe condition. If reasonably practicable, it should develop and implement appropriate analysis tools and processes and make these available to engineers responsible for the management of structures and track.</p>		
Comment		
Awaiting response		
RECOMMENDATION	11	Status: Awaiting response
<p><i>The intention of this recommendation is to improve the construction of existing tank wagons registered in Great Britain in order to mitigate the risk of leakage resulting from damage to external fittings in accident scenarios.</i></p> <p>Network Rail's Private Wagons Registration Agreement Management Group, and the owners of other dangerous goods tank wagons registered in Great Britain (DB Schenker) should review the design of tank wagons, for which they are responsible, to evaluate measures (including shrouding) that could be taken to protect external equipment, such as pressure and vacuum valves, against damage in the event of overturning and derailment. Where reasonably practicable, Network Rail's Private Wagons Registration Agreement Management Group and DB Schenker should take action to ensure that the external equipment is adequately protected in the event of overturning and derailment.</p>		
Comment		
Awaiting response		
RECOMMENDATION	12	Status: In-progress
<p><i>The intention of this recommendation is to improve the construction of new tank wagons in order to mitigate the risk of leakage resulting from tank damage in accidents.</i></p> <p>The UK competent authority for dangerous goods, the Department for Transport, should evaluate the case for extending the requirement for end protection measures on rail tank wagons to cover a wider range of liquid products. The combined benefit to both safety and the environment shall be taken into consideration when assessing the cost implications of this extension. If the case is valid, the Department for Transport should make a proposal for a requirement change to the committee responsible for the RID regulations.</p>		
Comment		
RAIB notes the action taken by the DfT to progress this recommendation, and conclude that there is no further action that RAIB should take.		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 170 Adtranz "Turbo" DMU	Greenhill Upper Junction, near Falkirk	09:45	22 March 2009	Failure of signalling system
RAIB Report No:	04/2010	Published:	18 March 2010	

Summary

On 22 March 2009 as a passenger train traversed Greenhill Upper Junction, one of the trailing point ends, forming a set of switch diamonds, was in the incorrect position as the train trailed through them. It forced the switch blades to the correct position causing damage to the mechanism. The train was not derailed and continued normally to its destination. There were no injuries caused to either train crew or passengers, and there was no damage to the train.

Recommendations Six recommendations are made

RECOMMENDATION**1****Status: Awaiting response**

The purpose of this recommendation is to make it clear in maintenance documentation that if installation work covered by maintenance testing arrangements is partially carried out, off site, as pre-work, the work should be independently tested so far as is practicable at that stage. The extent of the testing should be confirmed on a written record that is available for those completing the testing following site installation. A tester should be in overall charge of the testing as required by current standards.

While maintaining the requirement that one maintenance tester should be in overall charge of the testing, Network Rail should revise its maintenance documentation such as the SMTH to make it explicitly clear that if installation work is carried out off site in advance of site work, this pre-work should be tested if practicable at that stage.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The purpose of this recommendation is that for planned project work such as the HW1000 point machine renewal project in Scotland, testing should be planned in advance and not left to the time of site installation.

Network Rail should revise its procedures so that where planned project work is carried out under the SMTH, the arrangements for testing of the completed works (and any partially completed works) should be planned and documented in advance and briefed to those undertaking the work prior to the commencement of those works.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The purpose of this recommendation is to make clear in maintenance documentation the correct intent and method of carrying out points testing.

In respect of points testing, Network Rail should clarify and brief their staff as to:

- whether or not the signaller's indications should be monitored during the out of correspondence test;
- the method of carrying out the detection test of HW type point machines; and
- the need to continually monitor the detection relays during the manual operation of points when the out of correspondence test is being carried out. The points should be moved at a rate that allows any false operation of the relays during their travel to be observed.

Comment

Awaiting response

1

National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p><i>The purpose of this recommendation is the creation of a process suitable for the installation and testing relating to small-scale enhancement projects, requiring a limited change in the design, such as the HW1000 point machine renewal project in Scotland whose scope had to be reduced to fit the requirements of maintenance testing. The process would contain less onerous requirements than in works testing but more onerous requirements than in maintenance testing.</i></p> <p>Network Rail should consider the introduction of a process that is suitable for planned small-scale enhancement projects of the type originally conceived for the HW1000 point machine renewal project in Scotland. Consideration should be given to the inclusion of the following elements in any new process:</p> <ul style="list-style-type: none"> • a project specification; • the issue of design drawings; • a strategy for the testing, including the resources required; • the appointment of the tester in advance; • a written test plan; and • a system that documents the completion of specific stages of the testing. 		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: Awaiting response
<p><i>The purpose of this recommendation is to enhance the system under which records of work carried out under the SMTH are made, in order to provide better traceability and auditability of what has been done.</i></p> <p>Network Rail should review the adequacy of the system of written records arising from work carried out under the SMTH so that the completion of specific stages of work covered by the SMTH gives rise to specific records of what has been done.</p>		
Comment		
Awaiting response		
RECOMMENDATION	6	Status: Awaiting response
<p><i>The purpose of this recommendation is to improve the system by which copies of maintenance drawings, marked with handwritten annotations showing alterations, are updated.</i></p> <p>Network Rail should revise its current system for the updating of amended maintenance drawings with the aim of reducing the time taken to do so. This should include prescribing clear timescales in standards.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 153 single-car DMU	Cummersdale, Cumbria	14:20	1 June 2009	Passenger train derailment
RAIB Report No:	06/2010	Published:	25 March 2010	

Summary

On 1 June 2009, at approximately 14:20 hrs, train 2C31, which formed the 13:05 hrs Whitehaven to Carlisle service, was travelling on the Maryport and Carlisle section of the Cumbrian Coast line, heading towards Carlisle. The driver of train 2C31 had been requested to visually examine the line between Dalston and Cummersdale near Carlisle (figure 1) to find a defect in the track which had been reported by the driver of the preceding train, 2C47, to the signaller. While scanning the line, the driver of train 2C31 noticed a severe track buckle approximately 200 metres ahead. He applied the emergency brake but was unable to stop before the buckle. The leading bogie of train 2C31 derailed and ran on for approximately 25 metres. The trailing bogie was not derailed.

Recommendations**Five recommendations are made****RECOMMENDATION****1****Status: Awaiting response**

Network Rail should develop a comprehensive document for the maintenance and repair of jointed track, which brings together best practice, existing, and any new requirements and implement procedures so that it is used by relevant staff as the principal reference for jointed track. The document should include monitoring and controlling rail creep, setting and checking of expansion gaps in 120 ft rails in rail creep sites, ballast disturbance in hot weather, seasonal briefings to track patrollers and maintainers and rail temperature monitoring.

The purpose of this recommendation is to provide a consolidated document which provides maintainers with the necessary instructions and guidance to manage the risk of buckles in jointed track.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

Network Rail should identify all sections of jointed track on its infrastructure which have 120 ft rail lengths in rail creep sites and introduce a process for monitoring such sites, undertaking remedial work as necessary in preparation for the 2010 hot weather season onwards.

The purpose of this recommendation is to minimise the risk of track buckles on other jointed track sites with similar characteristics to Cummersdale.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

Network Rail should identify rail creep sites at which Panlock keys should be replaced (in accordance with NR/SP/TRK/102) and those sites at which they should be retained (to prevent risks from other types of track faults) and arrange for replacement at the identified locations, monitoring such sites in the interim.

The purpose of this recommendation is to remove the risk from Panlock keys at sites prone to rail creep, where it is safe to do so.

Comment

Awaiting response

1 National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p>Network Rail should re-brief its signallers on the requirements of GE/RT8000, module TS1, clause 17.1, to clarify that when a track defect is reported which, by its nature and severity, could endanger trains (including track buckles), trains should not be used to examine the line, and include this in signallers' competency based assessments.</p> <p>The purpose of this recommendation is to provide clarity to signallers on dealing with track buckles or other reported track defects that could endanger trains.</p>		
Comment		
Awaiting response		

RECOMMENDATION	5	Status: Awaiting response
<p>Northern Rail should promote appropriate changes to clause 16.1 of module TW1 of GE/RT8000, so that there is a specific requirement on drivers to come to a clear understanding with signallers as to what the maximum speed should be when examining the line.</p> <p>The purpose of this recommendation is to reduce the risk of a dangerous situation arising as a result of an omission by a signaller to specify the maximum speed.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 165 2/3 car "Turbo" DMU	Fairfield crossing, Bedwyn	17:30	6 May 2009	Level crossing fatality
RAIB Report No:	08/2010	Published:	12 May 2010	

Summary	
<p>At about 17:30 hrs on 6 May 2009 the 17:08 hrs First Great Western train from Newbury to Bedwyn, which was travelling at about 69 mph, struck a pedestrian on the footpath level crossing known as Fairfield crossing, near the village of Little Bedwyn, Wiltshire. The pedestrian and one of the two dogs were fatally injured.</p>	
Recommendations	Three recommendations are made

RECOMMENDATION	1	Status: Implemented
<p><i>The intention of this recommendation is to ensure that the impact of limited sighting at footpath crossings is taken into account when assessing risk.</i></p> <p>Network Rail should review the operation of the All Level Crossing Risk Model with respect to sighting times at footpath crossings, to establish whether the sensitivity of the model to variations in sighting can be improved, and should modify the model if this review shows that it is reasonably practicable to do so.</p>		
Comment		
<p>ORR has reported that Network Rail has carried out a review in response to this recommendation, and propose no further action.</p> <p>RAIB is aware that RSSB have commissioned a review of the All Level Crossing Risk Model. The sensitivity of the model to sighting is to be considered as part of this review.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

RECOMMENDATION	2	Status: In-progress
<p><i>The intention of this recommendation is to ensure that the risk to users of level crossings is properly managed.</i></p> <p>Network Rail should review the way it manages the risk to users at footpath level crossings, with the objective of highlighting to assessors when sighting is below the mandated standard, and providing clear guidance on the action to be taken if sub-standard sighting is identified during data collection or assessment.</p>		
Comment		
<p>Network Rail has outlined the actions to be taken in response to the recommendation (reviewed its processes for managing risk to users at footpath level crossings).</p> <p>ORR is seeking further information.</p>		

RECOMMENDATION	3	Status: Implemented
<p><i>The intention of this recommendation is to support the application of the mitigation option of marking the decision point identified in the level crossing risk management toolkit.</i></p> <p>Network Rail should provide guidance to risk assessors on the circumstances in which there is likely to be safety value in providing additional marking of the final decision point at footpath and bridleway crossings, and the best means of doing so.</p>		
Comment		
<p>ORR has reported that Network Rail has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 159 3-car "Express" DMU	Exeter St Davids Station	19:25	4 January 2010	Collision with other train
RAIB Report No:	10/2010	Published:	21 June 2010	

Summary	
<p>At around 19:25 hrs on 4 January 2010, a passenger train from Barnstaple arriving in platform 1 at Exeter St Davids station collided with the rear of another passenger train which was stationary in the platform. The driver of the train from Barnstaple had applied the brakes to stop behind the other train, but the train did not stop and a collision occurred at a speed of approximately 11 mph (18 km/h). The collision caused injuries to six passengers and three members of staff. Four passengers were taken to hospital although none of them were detained. Both trains suffered minor damage.</p>	
Recommendations	One recommendation is made

RECOMMENDATION	1	Status: Awaiting response
<p><i>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.</i></p> <p>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.</p>		
Comment		
Awaiting response		

1 National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 73 Bo-Bo Electro-diesel locomotive	Windsor and Eton Riverside Station	14:35	11 October 2009	Passenger train derailment
RAIB Report No:	11/2010		Published:	5 August 2010

Summary

The derailment occurred at 14:35 hrs on Sunday 11 October 2009 as train 1Z75, the 13:30 hrs charter service from London Waterloo, arrived at Windsor and Eton Riverside station. The train was formed of a class 73 locomotive leading a five-car Class 201 Diesel Electric Multiple Unit (DEMU), with two further class 73 locomotives on the rear. The derailment occurred as the train approached the buffer stops at 4.3 mph (6.9 km/h) on platform 1. Wheels on the leading axle of both bogies on the first carriage of the DEMU derailed. Twelve members of staff (including the train crew and other personnel involved in the organisation of the service) and 120 passengers were on board the train. There were no reported injuries. The normal train service to Windsor and Eton Riverside station was suspended until 19:58 hrs.

Recommendations **Three recommendations are made**

RECOMMENDATION

1

Status: Awaiting response

The purpose of this recommendation is to improve the skills of all staff involved in track inspection (including managers and supervisors) in identifying excessive dynamic gauge widening. Taken in conjunction with their existing competence in identifying chair shuffle the enhanced skills should increase the ability and confidence of staff in deciding if a dynamic derailment risk is evident.

Network Rail should revise its current competency training programme for all staff involved in track inspection to include reference to the visual identification of abnormal running band and its relationship with chair shuffle and wide gauge as an indication of dynamic gauge problems and potential risk of derailment.

Comment

Awaiting response

RECOMMENDATION

2

Status: Awaiting response

The purpose of this recommendation is for Network Rail to consider how potentially vulnerable parts of the network that are not covered by track recording vehicles can be subject to dynamic gauge measurement.

Network Rail should develop a proposal for the periodic measurement of dynamic gauge at potentially vulnerable locations not covered by a track recording vehicle, and implement the identified measures, as appropriate.

Comment

Awaiting response

RECOMMENDATION

3

Status: Awaiting response

The purpose of this recommendation is to ensure that Network Rail auditors are aware of findings from previous relevant audits to determine whether appropriate action has been taken and to enable them to understand the reasons why issues have recurred after they had been reported as closed.

Network Rail should ensure that its procedures for planning audits are amended to include a requirement for those undertaking audits of infrastructure maintenance activities to include as an input to the development of the audit plan a review of the findings from previous relevant audits and action taken, irrespective of whether the associated action is open or closed.

Comment

Awaiting response

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 373 Eurostar	St Pancras International	18:35	23 September 2009	Electric shock (near miss)
RAIB Report No:	12/2010	Published:	5 August 2010	

Summary

At approximately 18:35 hrs on 23 September 2009, shortly after the arrival of the 17:13 hrs train from Paris Nord at platform 9 of St Pancras International station, London, the overhead wire supplying electric power to the train, which was live at 25kV, parted and fell to the ground. This occurred during the preparation of the train for its next journey, while many passengers who had left the train were walking along the platform.

Recommendations **Seven recommendations are made**

RECOMMENDATION**1****Status: Awaiting response**

The purpose of this recommendation is to ensure that the correct spark gap is maintained to prevent the operation of the lightning arrester at lower than intended voltages.

Eurostar should review, and amend if appropriate, the design and/or maintenance of the lightning arrester spark gap electrodes to further reduce the risk of reduction in the length of the gap.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The purpose of this recommendation is to ensure that sound quality management processes are in place to monitor the suitability of the installation, testing and commissioning procedures.

ABB Power should review its quality management processes as they relate to the installation, testing and commissioning of safety related railway equipment.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The intent of this recommendation is to reduce the mechanical and electrical risk from broken cables from OHLE of the type currently in use at St Pancras falling onto the public or staff, particularly where it is in proximity to public areas of the station.

Network Rail and EDF should investigate the possibility of reducing the risk associated with damaged OHLE of the tramway type used at St Pancras International falling onto station platforms. This investigation should include, but not be limited to:

- improved electrical protection system (eg to deliver a more rapid response);
- improved support for the contact wire;
- enhanced resilience of the contact wire; and
- avoiding the use of automatic reclosure of circuit breakers supplying the tramway OHLE above platform tracks.

Comment

Awaiting response

1 National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p><i>The purpose of this recommendation is to ensure coherence between the specifications for equipment components.</i></p> <p>Network Rail should review, and if appropriate amend, the requirements for the performance of electrification systems being brought into use so that the electrical protection system, the OHLE and its rating provide an adequate margin of protection against all reasonably foreseeable electrical hazards.</p>		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: Awaiting response
<p><i>The purpose of this recommendation is to remind the EMMIS controller that a safety process has to be completed before a circuit breaker that has opened owing to a sustained fault may be closed.</i></p> <p>Network Rail Channel Tunnel Rail Link (CTRL) should investigate the possibility either of causing a suitably worded reminder, which must be responded to, to appear automatically on the EMMIS controller's screen warning of the safety process to be followed before closing a circuit breaker which has opened on automatic reclosure or of introducing other effective means of reminding the controller of the correct procedure to be followed.</p>		
Comment		
Awaiting response		
RECOMMENDATION	6	Status: Awaiting response
<p><i>The aim of this recommendation is to improve the awareness of new shift managers of the power supply control procedures.</i></p> <p>NR (CTRL) should review the induction procedures for new shift managers so that they are made aware of:</p> <ul style="list-style-type: none"> • the safety procedures to be followed in response to any matter arising from the operation of the OHLE; • the importance of carrying out the emergency isolation procedure immediately; and • the procedures to be followed by EMMIS controllers to recover the situation following an automatic trip while ensuring safety 		
Comment		
Awaiting response		
RECOMMENDATION	7	Status: Awaiting response
<p><i>The purpose of this recommendation is to improve the safety of persons at St Pancras in the event of OHLE damage in the station.</i></p> <p>Network Rail (CTRL) should make permanent the temporary instruction to EMMIS controllers that staff at St Pancras are to be contacted to confirm that all persons are in positions of safety before attempting to reclose a circuit breaker supplying the station that has opened automatically.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): FCA container wagon	Wigan North Western Station	23:59	25 August 2009	Freight train derailment
RAIB Report No:	14/2010	Published:	18 August 2010	

Summary

A derailment occurred on the night of 25/26 August 2009 at Wigan North Western station. A container train travelling from Glasgow to Manchester and Birmingham was slowing down to stop at Wigan when one of its wagons derailed. The wagon which derailed was an empty container wagon and its front bogie derailed at low speed whilst running round a sharp curve into the platform.

Recommendations

Four recommendations are made

RECOMMENDATION**1****Status: Awaiting response**

The purpose of this recommendation is to put in place a clear and consistent set of instructions to maintenance staff on the measurement and rectification of twist in wagons.

DB Schenker should put in place a system to assess and mitigate, so far as is reasonably practicable, the risk arising from twisted frames on container wagons and audit compliance with it. This should include an update of procedure EI WF/81 to reflect the types of wagon to which it is applied and to clarify where packings are to be placed.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The purpose of this recommendation is to identify and rectify other sites where design or construction is not in accordance with the track construction standard.

Network Rail should check, on a risk basis, other sites where WCRM S&C Alliance has installed track to verify that it has been designed and installed correctly and should implement corrective action where necessary.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The purpose of this recommendation is to prevent the situation arising where the maintainer does not recognise that incorrect components are fitted and so does not rectify the situation.

Network Rail should update its processes for track management to include checks that the rail fastening components are of the correct type for the particular rail and sleeper combination.

Comment

Awaiting response

RECOMMENDATION**4****Status: Awaiting response**

The purpose of this recommendation is to provide advice on dealing with gauge variation, which is given limits in the inspection standard but is not routinely monitored.

Network Rail should update its track recording information handling process to deal with gauge variation and should issue guidance to staff on minimum actions to be taken at each alarm level.

Comment

Awaiting response

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 333 Siemens 3 car EMU	Whitehall West Junction, Leeds	09:37	2 December 2009	Staff hit by train (Fatality)
RAIB Report No:	15/2010	Published:	2 September 2010	

Summary

At 09:37 hrs on Wednesday 2 December 2009, a westbound train struck and killed a track worker as it passed Whitehall West junction. At the time of the accident the train was driven by a trainee in the presence of a supervisor driver while three more trainee drivers travelled in the rear vehicle.

Recommendations

Two recommendations are made

RECOMMENDATION

1

Status: Awaiting response

The intention of this recommendation is to reduce the likelihood of lookouts moving from a safe position.

Network Rail should consider ways to reduce the risk of lookouts moving dangerously close to trains and if appropriate make arrangements to physically identify a safe position by:

- a. marking its limits on the ground;
- b. placing barriers at its limits;
- c. placing a rest in a safe position to allow a lookout to remain in comfort; or
- d. other appropriate arrangements.

Comment

Awaiting response

RECOMMENDATION

2

Status: In-progress

The intention of this recommendation is to reduce the likelihood of delay in the arrival of an ambulance at a rail accident site.

The ambulance services of the United Kingdom should consider ways to reduce the risk of ambulance drivers being unable to find places on the railway that do not have postcodes and if appropriate make arrangements for them to navigate to those places using:

- a. grid references; or
- b. other appropriate arrangements.

Comment

The majority of ambulance services have confirmed to the RAIB that they have considered the issues raised and taken actions.

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 158 2/3 car DMU Sprinter Slide Doors	Halkirk level crossing, Caithness	14:09	29 September 2009	Level crossing fatalities
RAIB Report No:	16/2010	Published:	23 September 2010	

Summary

On 29 September 2009 a collision occurred between a train and a car at the level crossing, at Halkirk, Caithness, resulting in fatal injuries to the three occupants of the car. There were no injuries to anybody on the train which was not derailed.

Recommendations Six recommendations are made

RECOMMENDATION**1****Status: Awaiting response**

The intention of this recommendation is that Network Rail should maintain the backboards fitted to road traffic light signals at level crossings so as to maximise the contrast between the lit red light unit and the backboard.

Network Rail should enhance the maintenance and inspection instructions relating to road traffic light signals, and brief staff accordingly, with the objective of ensuring that the backboards to level crossing road traffic light signals are maintained to provide the best possible contrast between a lit red light unit and its backboard.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The intention of this recommendation is that Network Rail should take into account the human factors issue of highway speed limit and other signs positioned close to level crossings while assessing the risk.

Network Rail should consider amending the level crossing risk management toolkit to include the human factors issue and associated risk reduction measure relating to the potential distraction caused by highway speed limit signs and other signs positioned close to level crossings.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The intention of this recommendation is that Network Rail should obtain a full understanding of the risk at Halkirk crossing with the result that more costly risk reduction measures such as the installation of half barriers might be justified.

Network Rail should obtain a full understanding of the risk at Halkirk level crossing by taking account of all relevant local factors such as the accident and incident history, as well as the results from ALCRM. The results of this assessment should be used to determine whether it would be reasonably practicable to upgrade the crossing with half barriers, or to implement other measures to deliver an equivalent level of safety.

Comment

Awaiting response

1

National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p><i>The intention of this recommendation is that those who execute the level crossing risk management process have sufficient guidance on how to assess the risks from factors not included in the All Level Crossing Risk Model assessment, including taking into account local factors such as the previous incident and accident history.</i></p> <p>Network Rail should issue improved guidance, and brief its staff, on assessing the risk from factors that are not currently included in the All Level Crossing Risk Model when carrying out risk assessments and making decisions on implementing risk reduction measures at crossings. This should include methods to be adopted when taking into account local factors such as the previous incident and accident history.</p>		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: Awaiting response
<p><i>The intention of this recommendation is to make staff carrying out level crossing inspections and maintenance aware of the difference between the visibility of road traffic light signals and their alignment and how they may determine that the lights are correctly aligned.</i></p> <p>Network Rail should improve the guidance to staff and brief its staff who undertake the inspection and maintenance of level crossings on how they should check that road traffic light signals are correctly aligned and how this differs from them being visible.</p>		
Comment		
Awaiting response		
RECOMMENDATION	6	Status: Awaiting response
<p><i>The intention of this recommendation is to cause Network Rail to change the design of long hoods so that they are more effective and to give its staff guidance on the criteria under which they should be fitted.</i></p> <p>Network Rail should review the design of long hoods that can be fitted at level crossings and implement any necessary changes identified to make them more effective. Guidance should also be issued to its staff on the specific circumstances of site orientation and prevailing lighting so that their use is optimal.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): No Train Involved	Bridge RDG1 48 (River Crane) between Whitton and Feltham	22:45	14 November 2009	Infrastructure failure
RAIB Report No:	17/2010	Published:	23 September 2010	

Summary

On Saturday 14 November 2009, at approximately 22:45 hrs, the driver of train 2S74, the 22:03 hrs service from Weybridge to London Waterloo felt a dip in the track in the vicinity of signal F178 between Feltham and Feltham Junction. The driver reported the track fault to the Feltham signaller who imposed a 20 mph (32 km/h) emergency speed restriction and cautioned following trains. Maintenance staff attended site and were unable to find a track fault at the location described. After widening their search, they discovered a loss of ballast beneath sleepers on the up line at bridge 48, located before the signal, and a serious defect with the structure. The route was blocked to all traffic at 00:55 hrs on 15 November 2009. There was no derailment and no injuries resulted from this incident. However, bridge 48 was damaged beyond repair, and the river span was subsequently demolished and rebuilt. Due to the nature of the damage, there was the potential for a high risk accident to occur.

Recommendations	Six recommendations are made
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RECOMMENDATION**1****Status: Awaiting response**

The purpose of Recommendation 1 is to establish a sustainable process for the routine inspection of bridges spanning watercourses and avoid the risk associated with structures not receiving frequent checks for obvious signs of hazards.

Network Rail should positively identify which structures require checking for obstructions against upstream faces, and how frequently. Such checks should be mandatory and the process for delivering them should be enhanced such that those who perform the task have the time, competence and information available to do the job effectively.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The purpose of Recommendation 2 is to increase the probability of debris being reported and removed prior to structural damage occurring.

Network Rail should provide means by which members of the public can report obstructions or other defects, particularly at locations where public access exists. This could include the provision of bridge identification plates giving a telephone number similar to those provided at low headroom highway bridges, together with a location description, map reference and structure number.

Comment

Awaiting response

1 National Network(s)

RECOMMENDATION	3	Status: Awaiting response
<p><i>The purpose of Recommendation 3 is to reinforce the role of the examining engineer so that the review of examination reports can add value to the examination process, particularly in cases where no action is proposed.</i></p> <p>Network Rail should re-consider the purpose of the role currently performed by the examining engineer and then identify the information and resources (including time) that are required to undertake the task effectively. This may include:</p> <ol style="list-style-type: none"> requiring bridge examiners positively to confirm that particular requirements for different types of bridge have been considered during an examination, for example by means of a checklist within the examination report; requiring bridge examiners to submit elevation photographs of bridges spanning watercourses, which show the surface of the water at each pier and abutment, and direction of flow for the purpose of identifying obstructions; and requiring bridge examiners to submit supplementary photographs in support of a visual examination report to enhance the level of information available to the examining engineer. 		
Comment		
Awaiting response		
RECOMMENDATION	4	Status: Awaiting response
<p><i>The purpose of Recommendation 4 is to improve the assessment of scour risk.</i></p> <p>Network Rail should review its underwater examination task lists nationwide to check for further omissions, and require that underwater examinations are normally undertaken in advance of scour assessments to enable a fuller picture of a structure's condition to be realised.</p>		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: In-progress
<p><i>The purpose of Recommendation 5 is to give infrastructure managers the opportunity to respond to scour risk where identified by an EA inspection.</i></p> <p>The Environment Agency should, in conjunction with railway infrastructure owners, introduce processes to allow the immediate reporting of obstructions in watercourses where these occur adjacent to railway structures such as bridge piers or abutments, and regardless of whether there is an associated flooding risk.</p>		
Comment		
<p>The Environment Agency has outlined the actions to be taken in response to the recommendation.</p> <p>The Environment Agency is in the process of finalising a Memorandum of Understanding which includes the sharing of information where they have a mutual interest in assets owned by railway infrastructure owners.</p>		
RECOMMENDATION	6	Status: Awaiting response
<p><i>The purpose of Recommendation 6 is to reduce the risk of a secondary incident occurring following the failure of a structure.</i></p> <p>Network Rail should review the guidance provided for non-specialist staff who may be required to assess the failure of track support in the vicinity of a structure, and determine whether it is safe for trains to run over that structure.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 221 Super "Voyager" DMU	Victory level crossing, near Taunton, Somerset	18:45	19 December 2009	Level crossing near miss
RAIB Report No:	18/2010	Published:	7 October 2010	

Summary

During the evening of 19 December 2009, a wheelchair user suffered a near-miss with a train on Victory level crossing, near Taunton in Somerset. One of the front wheels of his wheelchair became embedded in an area of ballast at the edge of the crossing, with part of the wheelchair obstructing the down line. Shortly after this happened, a train approached on the down line and the wheelchair user was forced to pull himself out of the wheelchair, which was subsequently struck by the train. The wheelchair user suffered minor injuries in the incident. The RAIB has made four recommendations to Network Rail concerning level crossing surfaces, level crossing inspections, minimising the hazards to users of small-wheeled vehicles on level crossings and the management of safety-related work at level crossings.

Recommendations**Four recommendations are made****RECOMMENDATION****1****Status: Awaiting response**

The purpose of this recommendation is to make it clear to those installing, replacing and inspecting level crossings the required physical arrangements at the interface between the crossing and the road.

Network Rail should enhance its level crossing standards to include detail on the design of the interface between the crossing surface and the road. This should include a specification of the length of material relative to the crossing surface that is required to provide a consistent and safe crossing surface for all level crossing users. When developing a new standard, or amending an existing standard, account should be taken of other crossing features such as cattle guards.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The purpose of this recommendation is to assist level crossing inspectors in the identification of hazards within the usable crossing surface that present hazards to small wheels and to better reflect the requirements of Network Rail Company Standard NR/L2/SIG/30017.

Network Rail should enhance its level crossing inspection standards and checklist forms, and the data collection forms used in the level crossing risk assessment process, to highlight the potential hazards from inconsistent crossing surfaces to small wheels such as those on wheelchairs and children's pushchairs and arrange suitable training/briefing for staff using the forms.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The purpose of this recommendation is to evaluate the effectiveness and safety benefits of possible solutions for assisting users of level crossings who may have difficulty negotiating flangeway gaps.

Network Rail should, taking account of research in this country and developments overseas, review methods for minimising the hazards from the flangeway gap at level crossings, particularly those that are skewed relative to the roadway or path, to users with small-wheeled equipment, such as wheelchairs and pushchairs, with a view to evaluating the costs and benefits of options for improving the safety of users of level crossings.

Comment

Awaiting response

1 National Network(s)

RECOMMENDATION	4	Status: Awaiting response
<p><i>The purpose of this recommendation is for Network Rail to review and improve its arrangements for commissioning follow-up activities when safety-related work at level crossings has not been completed in accordance with an agreed specification.</i></p> <p>Network Rail should conduct a review of the adequacy of its arrangements for addressing the timely correction of deficiencies when safety-related work at level crossings has not been completed in accordance with an agreed specification. Any reasonably practicable measures identified during this review should be implemented.</p>		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 159 3-car "Express" DMU	Gillingham Tunnel, Dorset	19:27	28 November 2009	Collision with an obstacle
RAIB Report No:	19/2010	Published:	28 October 2010	

Summary	
<p>During the evening of 28 November 2009, a London to Yeovil train travelling at a speed of 64 mph ran into a landslip in the cutting on the eastern approach to Gillingham tunnel in Dorset. The leading carriage of the train became derailed and the train ran into the tunnel and stopped 200 metres inside. Two passengers reported minor injuries. The leading carriage of the train and around 450 metres of railway track were damaged.</p>	
Recommendations	Five recommendations are made

RECOMMENDATION	1	Status: Awaiting response
<p><i>This recommendation is intended to reduce the risk which may be created by off track drainage overflowing.</i></p> <p>Network Rail should instigate a process to:</p> <ul style="list-style-type: none"> Identify all locations where unsatisfactory operation of off track drainage is a significant risk to railway safety. Identifying these locations should be assisted by use of information being collected as part of Network Rail's on-going drainage asset surveys, knowledge already required for adverse weather planning and data being obtained from on-going studies to identify locations where ground topography concentrates water flows. For all such locations establish a programme to: <ul style="list-style-type: none"> Determine for each location the site specific parameters which are sufficient to ensure satisfactory off track drainage performance. These parameters should include ditch sizes and the extent to which roots may remain in place. The parameters shall be verified by a drainage professional. Maintain off track drainage to comply with these parameters. 		
Comment		
Awaiting response		

RECOMMENDATION	2	Status: Awaiting response
<p><i>The intention of this recommendation is to improve compliance with Network Rail's requirements for earthwork stewardship in South East Territory.</i></p> <p>Network Rail should examine the extent of compliance with its requirements for the management of earthworks in Southeast Territory and put in place management processes to ensure full compliance.</p> <p>These processes should cover:</p> <ul style="list-style-type: none"> Briefing staff and, if necessary, clarifying standards, so that all earthwork evaluations take full account of all relevant historical records already held by Network Rail, and any other readily available records. (If necessary, Network Rail should modify its archive retrieval system to allow efficient recovery of these records.) Improving compliance with the NR/L2/CIV/086 requirement that all earthworks in 'poor' condition are subject to re-evaluation whenever examinations show their condition has worsened. Providing a comprehensive extreme weather plan (including actions unrelated to flood and scour) in accordance with TRK/1010 for the Wessex Route and for any other areas where extreme weather plans are not fully compliant with TRK/1010. Current practice should be included in these plans as soon as practical. 		
Comment		
Awaiting response		
RECOMMENDATION	3	Status: Awaiting response
<p><i>This recommendation is intended to prevent errors from previous earthwork examinations being carried forward into later examination reports.</i></p> <p>Network Rail should modify the earthwork re-examination process so that earthwork examiners must positively confirm the accuracy of all examination data including any data which remains unchanged from the previous examination.</p>		
Comment		
Awaiting response		
RECOMMENDATION	4	Status: Awaiting response
<p><i>This recommendation seeks to ensure sufficient professional drainage expertise is available in SET without compromising other necessary activities.</i></p> <p>Network Rail should determine, and subsequently keep under review, both the actual workload of the E&DT and whether existing resources are sufficient. If not sufficient, Network Rail should provide additional resources to suit the workload.</p>		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: Awaiting response
<p><i>This recommendation is intended to improve the accuracy of earthwork examination reports.</i></p> <p>Network Rail should modify its earthwork standards to require that the earthwork examination process includes checking that the drainage observations included in the examination report are consistent with any drain location and drain performance information known to maintenance teams.</p>		
Comment		
Awaiting response		

1

National Network(s)

Equipment Type	Place	Time	Date	Incident
National Network(s): Class 66 Co-Co diesel-electric locomotive	Romford Station, Essex	07:25	4 February 2010	Train movement accidents involving passengers (train doors)
RAIB Report No:	20/2010		Published:	9 December 2010

Summary

At about 07:25 hrs on Thursday 4 February 2010, a quantity of stone ballast fell from the bottom doors of a wagon in a freight train, running from Acton, west London, to Ipswich, as it passed through Romford station in Essex at about 59 mph (95 km/h). Stones bounced onto the station platform, and struck three people, two of whom subsequently required treatment for minor injuries.

Recommendations

Five recommendations are made

RECOMMENDATION**1****Status: Awaiting response**

The intention of this recommendation is that the PGA wagon fleet should be modified to enable wagon discharge operators to have a clear indication of the state of the doors.

DB Schenker should investigate the design and the maintenance arrangements of the hopper doors of PGA type wagons and their control gear, and evaluate whether it is feasible to devise a means by which the open, closed or locked status of the door can be more clearly indicated to the operator than is the case at present, and implement this change if it is reasonably practicable to do so.

Comment

Awaiting response

RECOMMENDATION**2****Status: Awaiting response**

The intention of this recommendation is that staff at terminals served by DB Schenker should have guidance on how to operate wagon doors and check they are secure, and adequate light to enable them to do this.

DB Schenker should issue to its staff and relevant customers guidance and instructions on how to correctly operate the doors of all the types of wagons in use by the company, and how to check that the doors of wagons are secured closed. As part of this work, DB Schenker should review the visibility of wagon doors and the means of ensuring suitable levels of lighting to enable staff to check them.

Comment

Awaiting response

RECOMMENDATION**3****Status: Awaiting response**

The intention of this recommendation is to improve the competence of DB Schenker ground staff.

DB Schenker should carry out a review of the training, monitoring and competence of all ground staff, with particular reference to the use of PGA wagons and the supervision and operation of yards. This review should include:

- The training of staff in the preparation and examination of trains before departure; and
- Instructions to staff on when train preparation and examination should be done.

The results of this review should be implemented as appropriate.

Comment

Awaiting response

RECOMMENDATION	4	Status: Awaiting response
<p><i>The intention of this recommendation is to learn lessons from the incorrect application of DB Schenker's safety management system.</i></p>		
<p>DB Schenker should investigate the reasons why formal safety validation of organisational changes (including risk assessment) did not take place in respect of the changes implemented at Acton Yard in 2009 - 10, and implement any recommendations arising from this investigation.</p>		
<p>Comment</p>		
<p>Awaiting response</p>		
RECOMMENDATION	5	Status: Awaiting response
<p><i>The intention of this recommendation is to introduce a procedure within DB Schenker for responding to reports of defective wagons that come from outside the company.</i></p>		
<p>DB Schenker should devise and implement a procedure for handling reports of defective wagons that are received from sources outside the company.</p>		
<p>Comment</p>		
<p>Awaiting response</p>		

2 Light Rail

Recommendation responses made for Light Rail in reports published between 2006 and 2009 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
Light Rail: T68 Tram	Long Millgate (Manchester Metrolink)	08:03	22 March 2006	Passenger train derailment
RAIB Report No:	08/2007		Published:	17 April 2007

Summary

At 08:03 hrs on Wednesday 22 March 2006, two wheelsets of tram 1011, operating the 07:42 hrs Bury to Altrincham service on the Manchester Metrolink system, became derailed as the tram was entering the street running section of the network at Long Millgate, near Victoria Station. The derailed wheels remained close to the track, and the tram stopped 44 m from the point of derailment.

Recommendations **Four recommendations are made**

RECOMMENDATION

3

Status: Implemented

The infrastructure maintainer of Manchester Metrolink and GMPTE should jointly introduce a system for initiating, planning and implementing track renewals on the Metrolink system.

Comment

The contract to maintain the Metrolink system has now transferred to Stagecoach. GMPTE has reported that the new contract now includes a mechanism for track renewals. Extensive renewals have taken place in the city centre.

Equipment Type	Place	Time	Date	Incident
Light Rail: Prototype tram	Blackpool (Blackpool Tramway)	16:15	24 January 2007	Fire on prototype tram
RAIB Report No:	41/2007		Published:	27 November 2007

Summary

On 24 January 2007 at approximately 16:15 hrs, tram 611, a prototype City Class tram, was stationary near Foxhall Square in Blackpool when a fire occurred inside the vehicle near the front (B end) driving position. There were no casualties.

Recommendations **Two recommendations are made**

RECOMMENDATION

2

Status: In-progress

Trampower Ltd should carry out an appropriate risk assessment relating to the design, construction and operation of the vehicle with reference to Regulation 3 of the Management of Health and Safety at Work Regulations. Part of this assessment should consider whether components and systems are appropriately constructed and installed in a way that is fit for their intended use. This risk assessment, and related currently-applicable technical documentation, should be provided to the operators of any network where the vehicle is used.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

Equipment Type	Place	Time	Date	Incident
Light Rail: T68 Tram	St Peter's Square (Manchester Metrolink)	23:10	29 June 2008	Passenger train derailment
RAIB Report No:	25/2009	Published:	17 September 2009	

Summary

At 23:10 hrs on 29 June 2008 at St Peter's Square a Manchester Metrolink tram derailed in Manchester City Centre. The tram, forming the trailing half of a double unit, had just left St Peter's Square stop and was travelling along Mosley Street towards Piccadilly Gardens. The middle bogie of the tram derailed to the left-hand side. The derailed tram travelled 90 metres, hit the kerb and came to rest partially mounting the pavement.

Recommendations Five recommendations are made

RECOMMENDATION**1****Status: In-progress**

GMPTE should work with SML to put in place processes to identify, manage and rectify any section of operational track that becomes non-compliant to the agreed standards. It should put in place arrangements to ensure compliance with the processes. The processes should require time bound plans to renew or repair, as appropriate, and implementation of suitable mitigation measures to manage the derailment risk until the track is brought back within the standards.

Comment

GMPTE has outlined the actions to be taken in response to the recommendation.

RAIB is seeking further information and confirmation that the recommendation has been implemented.

RECOMMENDATION**2****Status: In-progress**

GMPTE should review its Metrolink organisational structure, policy and procedures to confirm that they are sufficient for it to exercise its responsibilities under the Health and Safety at Work Act. Its consideration should include the need for an identified head of safety, documentation describing the arrangements for management of safety (including, but not limited to, identification and management of risk, and audit arrangements to confirm implementation and compliance) and provision of sufficient competent resource.

Comment

GMPTE has outlined the actions to be taken in response to the recommendation.

RAIB is seeking further information and confirmation that the recommendation has been implemented.

RECOMMENDATION**5****Status: In-progress**

The ORR should review its processes, in light of the findings of this investigation, to satisfy itself that there is sufficient guidance as to the circumstances under which its inspectors should verify the implementation of, and compliance with, a duty holder's submissions.

Comment

ORR has outlined the actions to be taken in response to the recommendation.

2 Light Rail

Investigation summaries and recommendations for Light Rail that have been reported on by the Safety Authority or are awaiting responses from reports published in 2010

Equipment Type	Place	Time	Date	Incident
Light Rail: Tram	Norbreck (Blackpool Tramway)	10:06	5 August 2009	Level crossing fatality
RAIB Report No:	09/2010	Published:	3 June 2010	

Summary

On 5 August 2009, at around 10:06 hrs, tram number 719, running south from Cleveleys towards Blackpool, struck a pedestrian who was crossing the tramway on a roadway crossing at Norbreck tram-stop. The pedestrian suffered serious injuries and died in hospital around five weeks later.

Recommendations Two recommendations are made

RECOMMENDATION	1	Status: Awaiting response
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BTS management should develop and document a company-wide policy for the determination and application of speed limits throughout the network. This should include a maximum speed for non-stopping trams through tram-stops. They should also develop, document, train and brief a speed limit signage policy.

The purpose of this recommendation is to introduce a universal speed limit policy, agreed by all parts of BTS and a corresponding speed limit signage policy. These should both be documented. Derivation of any timetables should fully take account of the speed limits applied.

Comment

Awaiting response

RECOMMENDATION	2	Status: Awaiting response
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BTS should develop and document an effective and consistent system to monitor compliance with speed limits among tram drivers, and adjust BTS recruitment, training and compliance procedures as necessary to increase levels of compliance.

The purpose of this recommendation is to improve the measurement of levels of non-compliance with speed limits and bring about improved levels.

Comment

Awaiting response

Equipment Type	Place	Time	Date	Incident
Light Rail: Tram	Great Orme (Great Orme Tramway)	12:15	15 September 2009	Collision with other train
RAIB Report No:	13/2010	Published:	16 August 2010	

Summary

At 12:15 hrs on 15 September 2009 two trams travelling in opposite directions collided at the passing loop on the upper section of the Great Orme Tramway, Llandudno. One person suffered minor injuries in the collision.

Recommendations Two recommendations are made

RECOMMENDATION**1****Status: In-progress**

The purpose of this recommendation is to identify and mitigate risks associated with the design, operation and maintenance of points installations.

Conwy County Borough Council should conduct a competent technical evaluation of the points and crossings on the Great Orme Tramway. This should include an analysis of the failure modes and their effects. Risks identified should be documented and control measures incorporated in the safety management system and procedures. Control measures should include, but not be limited to, checks, measurements and inspections and their periodicity, limits on track geometry and other components which affect the operation of the points and actions to be taken on reaching those limits.

Comment

Conwy County Borough Council has outlined the actions to be taken in response to the recommendation. Conwy County Borough Council will inform the RAIB when the actions have been carried out to implement the recommendation.

RECOMMENDATION**2****Status: In-progress**

The purpose of this recommendation is to promote effective monitoring of the condition of equipment, operations and maintenance of the Tramway.

Conwy County Borough Council should ensure that comprehensive and competent audits are carried out to identify any deficiencies associated with the operation and maintenance of the Tramway. The audits should include checks of the condition of tramway equipment and surveillance of safety critical work activities.

Comment

Conwy County Borough Council has outlined the actions to be taken in response to the recommendation, as per the response to Recommendation 1.

Conwy County Borough Council will inform the RAIB to confirm when the actions have been carried out to implement the recommendation.

3 Metro

Recommendations made for Metro railways in reports published between 2006 and 2009 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
Metro: On-track machinery	St John's Wood (London Underground Ltd)	02:40	25 October 2007	Runaway incident
RAIB Report No:	24/2008	Published:	26 November 2008	

Summary

At 02:40 hrs on 25 October 2007, an engineering unit (consisting of a motorised electric track trolley carrying four persons and two loaded trailers) failed to slow down at the rate the driver expected. The engineering unit was travelling at approximately 10 mph (16 km/h) from St. John's Wood station towards Baker Street station on the London Underground southbound Jubilee line, which was on a 1 in 39 falling gradient. The engineering unit collided at slow speed with two manual trolleys. During the collision the manual trolleys were pushed back about 0.3 m. There were no injuries.

Recommendations Fourteen recommendations are made

RECOMMENDATION

1

Status: In-progress

Consillia Ltd should undertake a review of the design of the braking system on its MTRL-1 trailers. The purpose of the review shall be:

- to determine sensitivity to the initial set-up, adjustment, lubrication and subsequent mechanical damage; and
- to identify design modifications to improve the robustness of the design and to restore reliability in service.

Any necessary improvements identified should be implemented.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

10

Status: In-progress

Consillia Ltd should review its design validation and testing process against current industry good practice (eg Engineering Safety Management: the 'Yellow Book', Issue 4.0). Any necessary improvements identified should be implemented.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

Equipment Type	Place	Time	Date	Incident
Metro: 62 DLR unit	Deptford Bridge (Docklands Light Railway)	05:22	4 April 2008	Passenger train derailment
RAIB Report No:	16/2009	Published:	22 June 2009	

Summary

At 05:22 hrs on 4 April 2008, the 05:19 hrs Docklands Light Railway service from Lewisham had just left Deptford Bridge station, travelling towards Greenwich, when it struck a drilling jig that had been left on the track and became derailed. There were no injuries to the 59 persons on board the train.

Recommendations **Eleven recommendations are made**

RECOMMENDATION**2****Status: Implemented**

Carillion JM Ltd should clarify the role of the senior PICOW to provide them with guidance on the method, nature and extent of the supervision of PICOWs that they are required to carry out.

Comment

ORR has reported that Carillion JM Ltd has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**3****Status: Implemented**

Docklands Light Railway Ltd, in consultation with Serco Docklands, should introduce modifications to the control system to remove the need for controllers to manually enter temporary speed restrictions after the rebooting of the system(s) and to simplify the checking of the correct speed restriction data.

Comment

ORR has reported that Docklands Light Railway Ltd has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**5****Status: Implemented**

Serco Docklands should undertake a review of its management arrangements for the monitoring, audit and review of activities at the level of operational and engineering staff. The findings of this review should be translated into effective corrective actions where appropriate.

Comment

ORR has reported that Serco Docklands has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION**6****Status: Implemented**

Serco Docklands should undertake an in-depth assessment of the adequacy of the current rules and procedures and implement improvements as appropriate. This assessment should encompass:

- the level of compliance with existing rules and procedures;
- identification of activities currently being undertaken that are not addressed by existing procedures;
- the interface with concessionaires (linked to Recommendation 9); and
- management systems to ensure compliance (eg audits).

Comment

ORR has reported that Serco Docklands has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

3 Metro

RECOMMENDATION	7	Status: Implemented
Serco Docklands should thoroughly and comprehensively identify safety process indicators covering the entire scope of its operation and implement suitable management arrangements covering the collection of data, monitoring and subsequent review. The guidance contained in HSG 254 in relation to leading and lagging performance indicators should be taken into account.		
Comment		
ORR has reported that Serco Docklands has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	9	Status: Implemented
Carillion JM Ltd should review its process for maintaining method statements as the design and project evolves. The process should include a check that the method statement states the actual tools and plant being used.		
Comment		
ORR has reported that Carillion JM Ltd has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		
RECOMMENDATION	11	Status: Implemented
Docklands Light Railway Ltd should undertake an assessment of the risk and possible mitigation measures associated with derailments and secondary collisions. This should assess the reasonable practicability of a range of measures including:		
<ul style="list-style-type: none"> • additional derailment containment at high risk locations; and • derailment detection (trainborne and/or trackside). 		
This assessment should include consideration of the impact of increased train traffic, increased passenger loadings and the operation of more and longer trains.		
Comment		
ORR has reported that Docklands Light Railway Ltd has taken actions in response to this recommendation.		
ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.		

Investigation summaries and recommendations for Metro railways that have been reported on by the Safety Authority or are awaiting responses from reports published in 2010

Equipment Type	Place	Time	Date	Incident
Metro: B90 + B92 DLR unit	West India Quay station (Docklands Light Railway)	10:02	10 March 2009	Passenger train derailment
RAIB Report No:	03/2010	Published:		4 March 2010

Summary

At 10:02 hrs on 10 March 2009, the 09:50 hrs Docklands Light Railway service from Bank to Lewisham became derailed as it travelled through a set of points at North Quay junction, just north of West India Quay station. There were no injuries to the 80 passengers or the passenger service agent on the train.

Recommendations

Seven recommendations are made

RECOMMENDATION

1

Status: Awaiting response

The intention of this recommendation is to assist passenger service agents to identify the indication (or the absence of it) displayed at point position indicators when driving their trains in a manual mode.

Docklands Light Railway Ltd should establish criteria for the location of point position indicators. These criteria should form the basis of a review of the sighting of all point position indicators and subsequent improvements. This should include factors such as:

- the height and angle of the point position indicator above rail height;
- the position of the point position indicator in relation to the track alignment; and
- the conspicuity of point position indicators when unlit.

Comment

Awaiting response

RECOMMENDATION

2

Status: Awaiting response

The intention of this recommendation is to improve the effectiveness of control centre controllers during degraded operations.

Docklands Light Railway Ltd, in consultation with Serco Docklands, should review the alarm management systems in the SMC, and implement any enhancements necessary to maximise the effectiveness of controllers during degraded modes of operations. The review should include:

- the number of alarms generated and their value to controllers;
- how they are displayed;
- actions in response to the alarms;
- the filters available to the controllers; and
- control room procedures and guidance.

Comment

Awaiting response

3 Metro

RECOMMENDATION	3	Status: Awaiting response
<p><i>The intention of this recommendation is to provide additional information to control centre controllers on unlit point position indicators in order that maintenance staff can be informed immediately.</i></p> <p>Serco Docklands should re-brief its staff on procedure SOP/M-3.08, 'Service Bulletins, Traffic Notices, Emergency Notices and Restrictions' to make clear that passenger service agents should report unlit point position indicators and that this information is passed by controllers to maintainers immediately.</p>		
Comment		
Awaiting response		
RECOMMENDATION	4	Status: Awaiting response
<p><i>The intention of this recommendation is to assist passenger service agents to identify the indication displayed at point position indicators when driving their trains in a manual type mode.</i></p> <p>Docklands Light Railway Ltd should replace all point position indicators with ones that are more conspicuous (when lit) as soon as reasonably practicable.</p>		
Comment		
Awaiting response		
RECOMMENDATION	5	Status: Awaiting response
<p><i>The intention of this recommendation is to improve the effectiveness of control centre controllers during degraded operations.</i></p> <p>Serco Docklands should establish and implement management arrangements for monitoring and reviewing the performance of controllers in order to assess the levels of compliance with current procedures and implement a system to ensure appropriate actions are taken to address any deficiencies identified.</p>		
Comment		
Awaiting response		
RECOMMENDATION	6	Status: Awaiting response
<p><i>The intention of this recommendation is to establish a mechanism for Docklands Light Railway Ltd to satisfy itself that the risks associated with change to its infrastructure are being adequately controlled.</i></p> <p>Docklands Light Railway Ltd, in consultation with Serco Docklands should review and revise as appropriate its processes for ensuring adequate control of changes to the design and operations of the railway. This review should encompass:</p> <ul style="list-style-type: none"> • the management of interfaces between the operating railway, designers, installers and testers; • that operational implications of design changes are correctly identified and understood; and • methods of making all relevant parties, management and staff aware of changes to the method of working. 		
Comment		
Awaiting response		

RECOMMENDATION	7	Status: Awaiting response
<p><i>The intention of this recommendation is to improve the effectiveness of all staff involved when operating in emergency shunt mode.</i></p> <p>Serco Docklands should carry out a review of training related to operations in emergency shunt mode and implement any enhancements necessary to maximise the effectiveness of the staff involved. This review should have the objective of:</p> <ul style="list-style-type: none"> • resolving the discrepancy between the emergency shunt procedure and the training; • ensuring that the training and testing material includes suitable and sufficient information on 'trailing' points; and • improving the arrangements for assessing staff competence for emergency shunt mode operations. 		
Comment		
Awaiting response		

Equipment Type	Place	Time	Date	Incident
Metro: LDIS LUL - District Line	Hanger Lane Junction (London Underground Ltd)	17:22	27 March 2009	Near-miss following SPAD
RAIB Report No:	05/2010	Published:	22 March 2010	

Summary
<p>At about 17:22 hrs on Friday 27 March 2009, eastbound District Line train 103 passed signal WM1 at danger at low speed. The train stopped with its leading end approximately five metres past the signal, and the train operator (driver of the train) reported the incident to the signaller by telephone. Signal WM1 is located between Ealing Broadway and Ealing Common in west London, and controls the approach to Hanger Lane junction where the Piccadilly and District lines converge. At 17:26 hrs, the signaller gave the train operator authority to proceed across the junction. Shortly afterwards, and before train 103 had started to move, a westbound Piccadilly Line train crossed the junction in front of it creating the potential for a collision. The signaller had initially overlooked the presence of this train, and had then been unable to contact the train operator of train 103 once he became aware of the situation.</p>
Recommendations
Six recommendations are made

RECOMMENDATION	1	Status: Implemented
<p><i>The purpose of this recommendation is to provide additional support to signallers after a train has passed a signal at danger and when the signalling system is unable to provide the normal level of protection to trains.</i></p> <p>LUL should formalise guidelines, or other safeguards, to assist signallers when a train passes a signal protecting a junction at danger.</p>		
Comment		
<p>ORR has reported that LUL has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

3 Metro

RECOMMENDATION	2	Status: Implemented
<p><i>The purpose of this recommendation is to enhance the ability of staff to deal with out-of-course events.</i></p> <p>LUL should make use of simulation techniques (including simulators) to enable signallers to practise their response in degraded working conditions, including communication with train operators.</p>		
Comment		
<p>ORR has reported that LUL has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	3	Status: Implemented
<p><i>The purpose of this recommendation is to embed the use of safety critical communications.</i></p> <p>LUL should improve the arrangements for training, rehearsing and auditing the use of safety critical communication skills to reinforce compliance, particularly among occasional users. This should establish the principle of a defined person having lead responsibility in all safety critical communications.</p>		
Comment		
<p>ORR has reported that LUL has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	4	Status: In-progress
<p><i>The purpose of this recommendation is to improve guidance issued to managers.</i></p> <p>LUL's medical advisory service should reissue its guidance to managers to clarify the categories of staff to whom working restrictions apply for specific types of medication.</p>		
Comment		
<p>LUL has outlined the actions to be taken in response to the recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	5	Status: Implemented
<p><i>The purpose of this recommendation is to improve the management of staff who are under the supervision of a doctor.</i></p> <p>LUL's medical advisory service, when providing guidance to managers, should consider whether staff subject to medical working time restrictions should be permitted to work anything other than the standard roster for that individual.</p>		
Comment		
<p>ORR has reported that LUL has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		
RECOMMENDATION	6	Status: Implemented
<p><i>The purpose of this recommendation is to improve the reporting of basic factual information following an incident.</i></p> <p>LUL should re-brief staff on their procedures to require a post-incident report to be prepared by the person(s) directly involved, and provide staff with the opportunity to do this.</p>		
Comment		
<p>ORR has reported that LUL has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>		

Recommendations made for Heritage railways in reports published between 2006 and 2009 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
Heritage: Steam Locomotive	Grosmont (North Yorkshire Moors Railway)	10:10	16 April 2006	Fire on rolling stock
RAIB Report No:	04/2007		Published:	30 January 2007

Summary

At around 10:10 hrs on 16 April 2006, locomotive 75029, hauling the 09:45 hrs passenger service from Grosmont to Pickering on the North Yorkshire Moors Railway, suffered a blowback of its fire approximately 1160 metres south of Grosmont station. The blowback filled part of the footplate with flame for between 4 and 10 seconds. The locomotive driver suffered minor burns.

Recommendations

Nine recommendations are made

RECOMMENDATION

9

Status: Implemented

RSSB should allow the HRA direct access to the NIR system, both to raise NIRs and receive them.

Comment

ORR has reported that RSSB has taken actions to enable access to safety critical information for the heritage sector.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

4 Heritage Rail

Equipment Type	Place	Time	Date	Incident
Heritage: Diesel locomotive	Spout House Curve and Millwood Bank (Ravenglass & Eskdale Railway)	13:40 & 10:45	29 May 2006 & 5 July 2006	Passenger train derailments
RAIB Report No:	07/2007	Published:	27 March 2007	

Summary

On 29 May 2006, a diesel locomotive hauled passenger train was travelling from Dalegarth to Ravenglass when the leading bogie of the sixth coach derailed at 13:40 hrs, on the exit from a left-hand curve (known as Spout House Curve) located approximately 5.75 miles (9.2 km) from Ravenglass. The derailment took place at 10-12 mph (16-19 km/h); there were no casualties and no significant damage to either the track or train. On 5 July 2006 at 10:45 hrs, another diesel locomotive hauled passenger train, travelling from Dalegarth to Ravenglass was passing through Millwood Bank, located approximately 1.5 miles (2.4 km) from Ravenglass, when the leading bogie of the fifth coach derailed while travelling at 15-18 mph (24-29 km/h). The derailed coach, which was different in design from the coach in the first accident, was empty (tare) at the time. There were no casualties and no significant damage to the track or the train.

Recommendations **Eight recommendations are made**

RECOMMENDATION

3

Status: Implemented

Ravenglass & Eskdale Railway should develop and bring into use, a rolling stock maintenance regime which is based on the assessment of hazards identified from both past experience and analysis of possible future failure modes. This assessment should include consideration of allowable tolerances in track condition. The revised documentation should identify critical dimensional parameters and component conditions to be checked at maintenance.

Comment

ORR has reported that Ravenglass & Eskdale Railway has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

RECOMMENDATION

6

Status: Implemented

Establish a system for routine inspection of the track condition and establish track standards such that temporary speed restrictions and/or remedial works are effected as appropriate to mitigate the risk of derailment due to excessive sway.

Comment

ORR has reported that Ravenglass & Eskdale Railway has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
Heritage: Steam locomotive, 'Wroxham Broad' and 7 carriages	Fisherground (Ravenglass & Eskdale Railway)	19:00	12 May 2007	Passenger train derailment
RAIB Report No:	32/2007		Published:	30 August 2007

Summary

On 12 May 2007, a steam locomotive hauled passenger train, fully laden with passengers, was travelling from Dalegarth to Ravenglass when the leading wheelset of the trailing bogie on the third coach derailed at Hollin How near Fisherground. The derailment occurred while the train was travelling at between 5 and 7 mph (8 and 11 km/h). There were no passenger injuries or significant damage to the train or the track.

Recommendations

Two recommendations are made

RECOMMENDATION

2

Status: Implemented

Ravenglass & Eskdale Railway should review their safety management system and operational procedures to identify if there are other areas where safety critical maintenance or design work is undertaken, or decisions are made, which should be subject to independent checking, and implement appropriate changes to procedures.

Comment

ORR has reported that Ravenglass & Eskdale Railway has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Equipment Type	Place	Time	Date	Incident
Heritage: Class 33/1 diesel locomotive 33108(engineering train)	Swanage Station (Swanage Railway)	12:21	16 November 2006	Locomotive collision with carriages
RAIB Report No:	35/2007		Published:	13 September 2007

Summary

At 12:21 hrs on Thursday 16 November 2006 an engineer's train entered platform 2 at Swanage and collided with a rake of carriages that were stabled there. Two members of Swanage Railway personnel were treated by ambulance staff, but neither required hospital treatment. The locomotive and one carriage sustained damage to the buffers and surrounding bodywork.

Recommendations

Five recommendations are made

RECOMMENDATION

3

Status: Implemented

The Swanage Railway should amend its medical standards for drivers to comply with the new guidance from the Heritage Railways Association when that guidance is issued.

Comment

ORR has reported that the Swanage Railway has reported that it has taken actions in response to this recommendation.

ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

4 Heritage Rail

Equipment Type	Place	Time	Date	Incident
Heritage: Diesel locomotive number 80+4 Carraiges	Shenley Hill Road (Leighton Buzzard Railway)	13:08	25 March 2007	Collision on level crossing with car
RAIB Report No:	45/2007	Published:	19 December 2007	

Summary

At approximately 13:08 hrs on 25 March 2007 a train on the Leighton Buzzard Railway (LBR), collided with a road vehicle at low speed on a level crossing at Shenley Hill Road on the outskirts of Leighton Buzzard, Bedfordshire.

Recommendations Three recommendations are made

RECOMMENDATION

1

Status: In-progress

Leighton Buzzard Railway Ltd (LBR (Ltd)) should change the method of working of Shenley Hill Road open crossing to require the train to stop and allow road traffic to halt before entering the level crossing.

Comment

LBR (Ltd) has proposed a trial of an amended method of working in response to this recommendation.

Equipment Type	Place	Time	Date	Incident
Heritage: Class 08 shunter	Lydney Town Junction (Dean Forest Railway)	14:40	15 August 2007	Injury to crossing keeper
RAIB Report No:	14/2008	Published:	2 July 2008	

Summary

At approximately 14:40 hrs on Wednesday 15 August 2007 a special passenger train from Norchard to Lydney Junction on the Dean Forest Railway (DFR), struck a partially open gate at Lydney Town level crossing, detaching the gate from its mountings. The gate struck and seriously injured one of the two crossing keepers. No other person was physically injured, and there was only superficial damage to the train.

Recommendations Ten recommendations are made

RECOMMENDATION

1

Status: In-progress

The Dean Forest Railway should review the system by which trains approach Lydney Town level crossing from the north so as to verify that the speed limit allows trains to stop before reaching the crossing in all cases of degraded braking and poor rail head conditions. The speed limit should also take into account a driver's ability to achieve the desired speed in a locomotive not equipped with a speedometer.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION

2

Status: In-progress

The Dean Forest Railway should introduce a process to formally and periodically instruct all drivers of the importance of adhering to all published speed limits.

Comment

No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.

RECOMMENDATION	3	Status: In-progress
The Dean Forest Railway should put in place systems to cover the provision, maintenance and use of the sanding systems on locomotives, autocoches and (where appropriate) brake vans in use on the railway.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		
RECOMMENDATION	7	Status: In-progress
The Dean Forest Railway should appoint a competent person to advise the company on the steps needed to comply with health and safety law.		
Comment		
No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.		

4 Heritage Rail

Investigation summaries and recommendations for Heritage railways that have been reported on by the Safety Authority or are awaiting responses from reports published in 2010

Equipment Type	Place	Time	Date	Incident
Heritage: Steam Locomotive	Hampton Loade (Severn Valley Railway)	16:50	28 September 2009	Passenger train derailment
RAIB Report No:	07/2010		Published:	8 April 2010

Summary

The accident occurred at 16:50 hrs on 28 September 2009 as the 16:00 hrs train from Kidderminster to Bridgnorth was approaching Hampton Loade station on the Severn Valley Railway (SVR). The train consisted of a class 4MT steam locomotive and six ex-British Railways (BR) Mark 1 passenger coaches. The locomotive tender derailed to the right as it approached the passing loop at the station. The train was carrying 32 passengers and 8 staff. Nobody was injured in the derailment.

The train was slowing down to stop and was travelling at less than 10 mph (16 km/h) at the time the derailment occurred on plain line to the south of the station. Significant damage was caused to the track and the tender. The points at the south end of the loop at Hampton Loade were damaged beyond repair and the line was closed for five days while repairs were carried out to reinstate a single line through the station. This prevented trains from passing at this station pending replacement of the points.

Recommendations **Five recommendations are made**

RECOMMENDATION

1

Status: Awaiting response

SVR should review and revise as appropriate the adequacy of its procedures for managing the risk arising from track conditions. This should include, but not be limited to, reference to periodicity of checks, measurement techniques, maintenance and safety limits on track geometry and actions to be taken on reaching those limits. Where external documents are referenced, SVR should make these available to their staff. Associated management arrangements should be recorded in the SMS.

Comment

Awaiting response

RECOMMENDATION

2

Status: Awaiting response

SVR should revise its SMS to reference the engineering department company standards.

Comment

Awaiting response

RECOMMENDATION

3

Status: Awaiting response

SVR should re-brief all staff and volunteers on the SMS and their responsibilities within it.

Comment

Awaiting response

RECOMMENDATION

4

Status: Awaiting response

SVR should review their management structure with the aim of making changes to improve the communication of safety related information within the railway.

Comment

Awaiting response

RECOMMENDATION	5	Status: Awaiting response
SVR should put in place procedures to ensure that audits of compliance with the SMS are carried out in a timely and effective manner.		
Comment		
Awaiting response		

5 Channel Tunnel

Investigation summaries and recommendations for Channel Tunnel in reports published between 2006 and 2009 that were not shown as implemented in the 2009 Annual Report

Equipment Type	Place	Time	Date	Incident
Channel Tunnel: Electric Locomotive - Eurotunnel	20.5 km from UK portal	13:30	21 August 2006	Fire on rolling stock
RAIB Report No:	37/2007		Published:	23 October 2007

Summary	
<p>On 21 August 2006 a fire broke out in the load compartment of a lorry on HGV Shuttle Mission 7370, the 13:23 hrs service from the UK terminal to France. The shuttle train was brought to a controlled stop at PK3050, 20.5 km from the UK portal, at 13:40 hrs. All 34 persons on board (30 lorry drivers and 4 Eurotunnel staff) were evacuated into the service tunnel by 13:49 hrs without injury. They were subsequently evacuated out of the service tunnel to the French terminal, reaching the French service tunnel portal at 15:47 hrs.</p>	
Recommendations	Sixteen recommendations are made
RECOMMENDATION	13 Status: In-progress
<p>Eurotunnel, in consultation with the emergency services in France and the UK, should carry out a study to assess the feasibility of decreasing the time taken to earth the catenary during an emergency situation. The best solution identified should then be implemented if reasonably practicable to do so.</p>	
Comment	
<p>No further information provided by ORR during 2010. No change in status to that reported in the 2009 Annual Report.</p>	

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