RAIB

Rail Accident Investigation Branch

Annual Report 2011 Section 2:

Reported Status of RAIB's Recommendations 2011

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Annual Report 2011 Section 2: Reported Status of RAIB's Recommendations 2011

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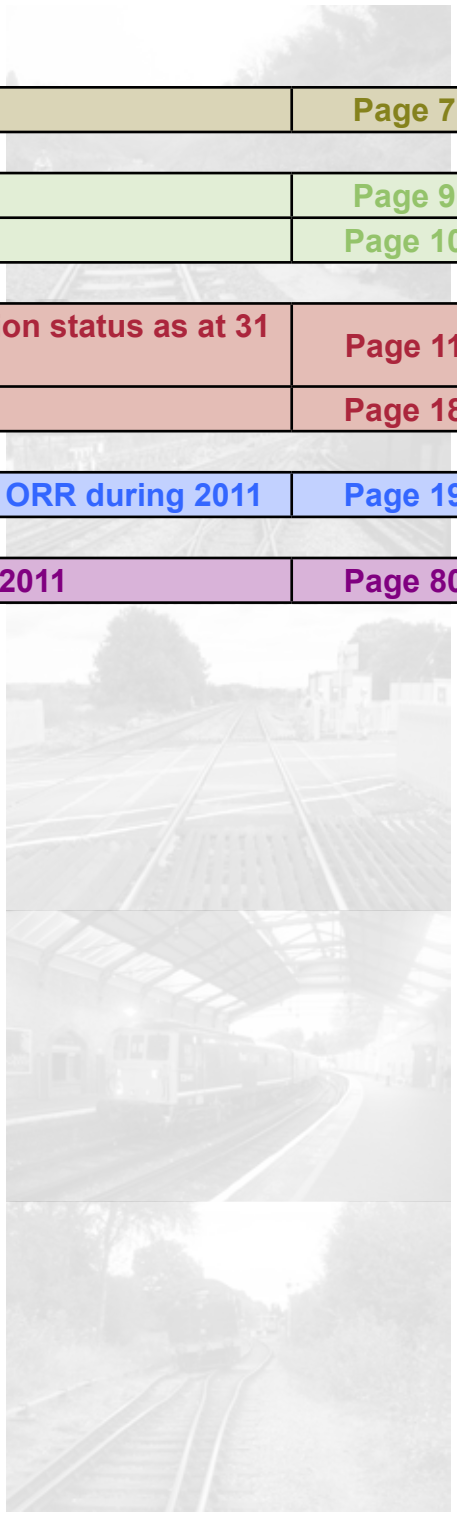

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Index of investigation reports included in this report

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Bayles & Wylies FPC, Nottingham	22-Nov-08	Level crossing fatality	50
Stewarton, Ayrshire	27-Jan-09	Freight train derailment	50
Greenhill Upper Junction, near Falkirk	22-Mar-09	Failure of signalling system	60
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Todmorden, West Yorkshire	28-Dec-10	Collision with an obstacle	110
Dryclough Junction, Halifax	05-Feb-11	Collision with an obstacle	113
Stonegate, East Sussex	08-Nov-10	Runaway incident	115
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Place	**Date**	**Accident / Incident**	**Page**
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Norbreck (Blackpool Tramway)	05-Aug-09	Level crossing fatality	65

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Place	**Date**	**Accident / Incident**	**Page**
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Hanger Lane Junction (London Underground Ltd)	27-Mar-09	Near-miss following SPAD	62
Gloucester Road (London Underground Ltd)	12-May-10	Freight train derailment	89
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Place	**Date**	**Accident / Incident**	**Page**
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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 2011. Further progress may have been made since January 2012, if so this will be included in the RAIB Report for 2012.

The RAIB plans to publish details on the progress of its recommendations on the Branch website; the recommendation report will be accessed via an icon placed on the same web page as the investigation report.

The Recommendation Progress Report

This status report is based on a consolidation of information provided to the RAIB by the Office of Rail Regulation prior to 31 December 2011.

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 report from ORR on the status of the recommendation

▲ 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.

List of investigation reports showing staus of recommendations as at 31 December 2011

Report year 2006		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
01	Tram, Pedestrian Collision at Staniforth Road, Sheffield	3				3
02	Derailment at Watford Junction Yard	4				4
04	Derailment at Phipps Bridge, Croydon Tramlink	4				4
05	Runway incidents on Blackpool Transport Services Tramway	4				4
07	The collision of a locomotive with carriages at Great Central Railway's Loughborough Central station	4				4
08	Freight train derailment at Hatherley, near Cheltenham Spa	5				5
09	Near miss of two track persons by a tram on the Manchester Metrolink, Radcliffe	9				9
10	Station over-run at Haywards Heath	2				2
11	Collision at New Addington on Croydon Tramlink	4				4
12	Collision at Black Horse Drove Crossing, near Littleport, Cambridgeshire	3		1		4
14	Derailment near Liverpool Central underground station	7		1		8
15	Cutting of rail from a line that was still open to traffic, near Thirsk station, East Coast Main Line	7		1		8
16	Trackworker fatality at Trafford Park	8		1		9
17	Derailment of a Ballast Plough Brake Van at Carlisle	6				6
18	Derailment at Blackpool Pleasure Beach	2				2
19	Derailment at Oubeck North near Lancaster	4		2		6
20	Report on the runway manually propelled trolley between Larkhall and Barncluith Tunnel	14	2			16
21	Wagon derailment at York station	4				4
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
24	Derailment at Archway	3				3
26	Collision between train and buffer stops at Sudbury	2				2
27	Broken rails at Urchfront & Kennington following the passage of a freight train	6				6
Total 2006		**124**	**2**	**7**	**0**	**133**
Percentage of total		**93%**	**2%**	**5%**	**0%**	**100%**

The Recommendation Progress Report

Report year 2007		Status Category				
		1	2	3	4	5
No	Investigation Title	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
00	Autumn Adhesion Investigation part 1: Signals WK338 and WK336 Passed at Danger at Esher. Part 2: Signal LW9 Passed at Danger at Lewes. Part 3: Review of adhesion-related incidents	19	6			25
01	Derailment of a freight train at Brentingby Junction, near Melton Mowbray	8		2		10
02	Derailment of a freight train at Cricklewood Curve	5		1		6
03	Unauthorised train movement and subsequent derailment at Haymarket, Edinburgh	3				3
04	The blowback of a locomotive fire at Grosmont on the North Yorkshire Moors Railway	8		1		9
05	Derailment near Waterside, East Ayrshire	7				7
06	Dispatch of a train with an unsecured load, Basford Hall Yard, Crewe	5				5
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	6		2		8
10	Traction control failure causing signal to be passed at danger, Camden Road	9				9
11	Huntingdon train door incident	6				6
12	Runaway permanent way trolley at Notting Hill Gate	9				9
13	Locomotive runaway near East Didsbury	7	1			8
14	Fatal accident involving a train driver, Deal	8		1		9
15	Derailment at Starr Gate, Blackpool	2				2
16	Two near misses at Crofton Old Station No.1 Level Crossing, near Wakefield, West Yorkshire	6				6
17	Tram collision at Soho Benson Road, Midland Metro	3				3
18	Collision between tram and road vehicle at New Swan Lane Level Crossing on Midland Metro	2				2
19	Unauthorised train movement at High Street Kensington	14				14
20	Derailment at Ropley (Mid Hants Railway)	6				6
21	Derailment of a tram on the Seaton Tramway	2				2
22	Fatal accident at Bronwydd Arms station, Gwili Railway	9				9
23	Fatal accident to Shunter, Dagenham Dock	7				7
24	Derailment of a freight train at Maltby North	2		2		4
25	Derailment at Trooperslane near Carrickfergus, Northern Ireland	7		1		8
26	Possession irregularity near Manor Park	2	1			3
27	Signal T172 passed at danger at Purley station, Surrey	5				5
28	Derailment at Phipps Bridge on Croydon Tramlink	2				2
29	Collision at Pickering Station North Yorkshire Moors Railway	2				2
30	Collision at Badminton	3		1		4

The Recommendation Progress Report

Report year 2007		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
31	Passenger door open on a moving train near Desborough	9				9
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	5	1			6
37	Fire on HGV shuttle in the Channel Tunnel	13	1	2		16
28	Derailment at Birmingham Snow Hill, Midland Metro	4				4
39	The derailment of a freight train at Washwood Heath	4				4
40	Incident at Wellesley Road on Croydon Tramlink					0
41	Fire on prototype tram 611 at Blackpool	1	1			2
42	Derailment at Cromore, Northern Ireland	7				7
43	Near miss involving a track worker at Tinsley Green Junction	8				8
44	Derailments at London Waterloo	14				14
45	Train/vehicle collision on the Leighton Buzzard Narrow Gauge Railway	2	1			3
46	Collision between a train and a road vehicle on the Leighton Buzzard narrow gauge railway	2				2
Total 2007		**266**	**13**	**13**	**0**	**292**
Percentage of total		**91%**	**4%**	**4%**	**0%**	**100%**

Report year 2008		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
01	Collision near Burton on Trent	4				4
02	The derailment of a freight train at King Edward Bridge, Newcastle	2	2			4
03	Derailment of a London Underground Central Line train near Mile End	5				5
04	Track worker fatality at Ruscombe Junction	7				7
05	Derailment in Hooley Cutting, near Merstham, Surrey	9				9
06	Tube Train driven in the wrong direction, Camden Town, Northern Line	4				4
07	Derailment of a passenger train near Kemble	2				2
08	Runaway and collision at Armathwaite	3				3
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	5	1			6
11	Derailment of a train at Croxton Level Crossing	3	8			11

The Recommendation Progress Report

Report year 2008		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
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	10				10
15	Child fell from train on the Nene Valley Railway	1				1
16	Derailment at Duddeston Junction, Birmingham	1	7			8
17	Passenger trapped in a closed train door, Tooting Broadway, Northern Line	1				1
18	Collision of a train with a demolished bridge, Barrow upon Soar	3		1		4
19	Accident at Leatherhead	6				6
20	Derailment at Grayrigg	22	7			29
21	Fatal accident to a trackworker east of Reading station	3	2			5
22	Train overspeeding through an emergency speed restriction at Ty Mawr Farm Crossing	4	3			7
23	Signal passed at danger and subsequent near miss at Didcot North Junction	5	2	2		9
24	Minor collision between an engineering unit and two manual trolleys near St. John's Wood	14				14
25	Network Rail's Management of Earthworks	4	2			6
26	Near miss involving railway staff and a train between Bishop's Stortford and Stanstead Mountfitchet, Essex	4		1		5
27	Fatal accident at Moor Lane footpath level crossing, Staines	4				4
Total 2008		**143**	**34**	**4**	**0**	**181**
Percentage of total		**78%**	**19%**	**2%**	**0%**	**100%**

Report year 2009		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
01	Fatal accident at West Lodge crossing, Haltwhistle	2	2			4
02	Derailment at Ely Dock Junction	16				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
06	Fatal accident at Morden Hall Park footpath crossing	1				1
07	Derailment of a freight train near Moor Street station, Birmingham	3				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	5		1		6

Report year 2009		Status Category				
		1	2	3	4	5
No	Investigation Title	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
10	Derailment at Santon near Foreign Ore Branch Junction, Scunthorpe	3	5	1		9
11	Road-rail vehicle runaway incidents at Brentwood, Essex and at Birmingham Snow Hill	5	1			6
12	Detachment of containers from freight wagons near Cheddington and Hardendale	5	5			10
13	Investigation into safety at user worked crossings	4	1	2	1	8
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	7	1			8
16	Derailment of a Docklands Light Railway train, near Deptford Bridge station, London	11				11
17	Collision near New Southgate	4	1			5
18	Derailment of a passenger train at Gysgfa, Ffestiniog Railway	5				5
19	Track worker struck by a train on Grosvenor Bridge, London Victoria	4	4	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	5	1	1		7
23	Trackworker struck by train, Stevenage	6				6
24	Freight train collision at Leigh-on-Sea	6		1		7
25	Derailment at St Peter's Square, Manchester	3	2			5
26	Fatal accident at Wraysholme crossing, Flookburgh, Cumbria	1	4			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, Kennington Junction	1	2			3
30	Accident at Dalston Junction		3			3
31	Container doors hit passenger trains, Penrith Station and Eden Valley Loop, Cumbria		3			3
32	Double fatality at Bayles & Wylies footpath crossing, Bestwood, Nottingham	4	4			8
33	Collision & derailment of a passenger train at North Rode, between Macclesfield & Congleton	2	1			3
Total 2009		**128**	**59**	**8**	**1**	**196**
Percentage of total		**65%**	**30%**	**4%**	**1%**	**100%**

The Recommendation Progress Report

Report year 2010		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	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	9	3			12
03	Derailment of a Docklands Light Railway train near West India Quay station, London	4	3			7
04	Incident at Greenhill Upper Junction, near Falkirk		6			6
05	Near-miss at Hanger Lane junction	6				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	2	1			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	1	3			4
15	Fatal accident at Whitehall West junction, Leeds		2			2
16	Fatal accident at Halkirk level crossing, Caithness	3	3			6
17	Failure of Bridge RDG1 48 (River Crane) between Whitton and Feltham		6			6
18	Near-miss on Victory level crossing, near Taunton, Somerset			1	3	4
19	Derailment near Gillingham tunnel, Dorset				5	5
20	Incident at Romford Station				5	5
Total 2010		**37**	**33**	**1**	**27**	**98**
Percentage of total		**38%**	**34%**	**1%**	**28%**	**100%**

Report year 2011		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
01	Passenger train struck by object at Washwood Heath				4	4
02	Near miss involving a freight train and two passenger trains, Carstairs	2	1			3
03	Derailment of freight train at Carrbridge, Badenoch and Strathspey	1	3			4
04	Fatal accident at Moreton-on-Lugg, near Hereford				4	4
05	Derailment of an engineering train between Gloucester Road and Earls Court stations on London Underground				9	9
06	Track worker struck by a train at Cheshunt Junction			1	1	2
07	Runaway and derailment of wagons at Ashburys				6	6

Report year 2011		Status Category				
		1	2	3	4	5
No	**Investigation Title**	Implemented	In-progress	Non-implementation	Awaiting response	Total Recommendations from report
08	Collision between train IC84 and a tree at Lavington, Wiltshire	2	2			4
09	Runaway of an engineering train from Highgate				7	7
10	Runaway and collision of a road-rail vehicle near Raigmore, Inverness				4	4
11	Accident at Falls of Cruachan, Argyll				6	6
12	Investigation into safety of automatic open level crossings on Network Rail's managed infrastructure				4	4
13	Bridge strike and road vehicle incursion onto roof of passing train near Oxshott Station		2		3	5
14	Collision between an articulated tanker and a passenger train at Sewage Works Lane user worked crossing, near Sudbury, Suffolk				6	6
15	Uncontrolled freight train run-back between Shap and Tebay, Cumbria				4	4
16	Derailment in Summit tunnel, near Todmorden, West Yorkshire				5	5
17	Derailment of a passenger train near Dryclough Junction, Halifax				5	5
18	Station overrun at Stonegate, East Sussex				3	3
19	Passenger accident at Brentwood station				5	5
20	Train passed over Lydney level crossing with crossing barriers raised				3	3
Total 2011		**5**	**8**	**1**	**79**	**93**
Percentage of total		**5%**	**9%**	**1%**	**85%**	**100%**

The Recommendation Progress Report

Recommendations made in 2011 to end implementer

End Implementer	Number
Department for Transport (DfT)	2
Freight, Train Operating Company (FOC)	9
Infrastructure Companies (Underground Only)	12
London Underground Ltd	11
Manufacturers	3
Network Rail	46
Other Public Bodies	3
Passenger, Train Operating Company (TOC)	9
Rail Safety and Standards Board	6
Railway Contractors	1
Rolling Stock Maintainers	1
The Office of Rail Regulation (ORR)	2
Total *Note: a number of Safety Recommendations are made to more than one implementer	***105**

Recommendations that were the subject of a report by ORR during 2011

Status of Recommendations

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 25/11/200 25/2006 Autumn Adhesion Investigation Pt1 Signals WK338 / WK336 at Esher Status: In-progress	Train operators to: l 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 (paragraph 247); l 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 (paragraph 253); l review their maintenance polices 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 (paragraph 254).	ORR has reported that most train operators have outlined the actions to be taken in response to the recommendation. ORR is seeking further information. The RAIB was concerned to note that the reported actions were insufficient to prevent a train operating with empty sand hoppers and a subsequent low adhesion event at Stonegate in Nov 2010 (RAIB report 18/2011). The ORR has informed the RAIB of its intention to carry out spot checks of the management systems train operators have in place to ensure that sand hoppers are filled; this will be carried out prior to the low adhesion season in 2012.
2 25/11/200 25/2006 Autumn Adhesion Investigation Pt1 Signals WK338 / WK336 at Esher Status: In-progress	Train operators to: l 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. l Brief any revised instructions to drivers (paragraph 250).	ORR has reported that most train operators have outlined the actions to be taken in response to the recommendation. ORR is seeking further information.
3 25/11/200 25/2006 Autumn Adhesion Investigation Pt1 Signals WK338 / WK336 at Esher Status: In-progress	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, e.g.: l where rolling stock is available; l where platforms can accommodate longer trains; l 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 (paragraph 258).	ORR has reported that most train operators have 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
9 25/11/200 25/2006 Autumn Adhesion Investigation Pt1 Signals WK338 / WK336 at Esher 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 paragraph 245).	ORR reports that it is seeking further information from ScotRail. ORR has advised RAIB that most train operators have reviewed the case for fitment of sanders to those vehicles currently unfitted. In some such cases sanders have now been installed. ORR has also 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.
20 25/11/2005 25/2006 Autumn Adhesion Investigation Pt1 Signals WK338 / WK336 at Esher Status: In-progress	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 2kg/minute except where a higher value has been permitted (paragraph 256).	ORR reports that most train operators have now checked the rate of which sand is dispersed. In a number of cases ORR is still seeking final confirmation that checks have been carried out and appropriate modifications made.
1 27/08/2006 13/2007 Locomotive runaway near East Didsbury 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 (paragraph 95 fifth bullet refers).	Operators of locomotives have or are about to take action in response to this recommendation. ORR are seeking further information.
2 27/08/2006 13/2007 Locomotive runaway near East Didsbury 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 (paragraph 96 third bullet refers).	English Welsh and Scottish Railways 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.
6 27/08/2006 13/2007 Locomotive runaway near East Didsbury Status: Implemented	EWS should ensure that the AFT cock is clearly labelled with its name, function and open/closed positions (paragraph 96 eighth bullet refers).	EWS 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 31/10/2006 30/2007 Collision at Badminton Status: In-progress	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 (paragraph 71).	No further information provided by ORR or HSE during 2011. No change in status to that reported in the 2009 Annual Report.
3 14/04/2007 42/2007 Derailment at Cromore, Northern Ireland Status: Implemented	Sperry Rail International should modify the suspension of the wagons that they use for ultrasonic testing to minimise their sensitivity to track irregularities including cyclic top (already complete)	Sperry Rail International has reported that it has taken actions in response to this recommendation. The safety authority (DRDNI) proposes to take no further action unless they become aware that the information provided becomes inaccurate.
6 14/04/2007 42/2007 Derailment at Cromore, Northern Ireland Status: Implemented	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.	Sperry Rail International has reported that it has taken actions in response to this recommendation. The safety authority (DRDNI) proposes to take no further action unless they become aware that the information provided becomes inaccurate.
2 17/03/2007 43/2007 Near miss involving a track worker at Tinsley Green Junction Status: Implemented	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 (paragraphs 191 and 192). Included in the revised documentation should be a clear definition of the term 'approaching train' (paragraph 148).	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.
3 17/03/2007 43/2007 Near miss involving a track worker at Tinsley Green Junction Status: Implemented	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 (e.g. 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 (paragraphs 192 and 196).	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.
4 17/03/2007 43/2007 Near miss involving a track worker at Tinsley Green Junction Status: Implemented	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 (paragraph 194).	Network Rail has reported that it has taken actions (by alternative means) in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
6 17/03/2007 43/2007 Near miss involving a track worker at Tinsley Green Junction Status: Implemented	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 (paragraph 199).	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 11/09/2006 44/2007 Derailment at Waterloo South sidings 1565 points Status: Implemented ▲	Network Rail should review and revise the guidance provided for staff undertaking or supervising standard 053 inspections to make clear the following: a. the detailed requirements for visual and increased-frequency inspections, including the use of photographs, and the development of standard forms with suitable prompts for this purpose (Paragraphs 204, 219, 222 and 237); b. the conditions where a switch blade repair cannot be safely achieved such that staff understand the alternative courses of action available (Paragraphs 214, 216, 250 and 253); and c. that work should be suitably planned and organised so that there is time for it to be carried out and with sufficient lighting for individuals to complete necessary inspections (paragraph 240).	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. RAIB notes the substantial progress reported by industry. Nevertheless, it is concerned that some of the issues identified in this investigation have featured in the preliminary findings of a RAIB investigation into a recent derailment of an empty passenger train at Princes Street Gardens, Edinburgh in July 2011.
6 11/09/2006 44/2007 Derailment at Waterloo South sidings 1565 points Status: Implemented ▲	Network Rail should introduce the requirement for a follow-up inspection after a standard 053 repair is carried out involving welding or grinding. This should be undertaken by an independent and competent person within a timescale commensurate with minimising the risk of derailment (Paragraph 243).	ORR reports to the RAIB that Network Rail had concluded that it is not practicable to mandate an independent inspection following welding or grinding. The RAIB is concerned to note that the preliminary findings of the investigation into the derailment of an empty stock train at Edinburgh, Princes Street Gardens, in July 2011, suggest that the absence of an independent inspection following grinding repairs was a factor.
9 11/09/2006 44/2007 Derailment at Waterloo South sidings 1565 points Status: Implemented	Network Rail should review resource requirements for the undertaking of special inspections in complex track areas to ensure that the problems identified at Waterloo do not exist elsewhere. Sufficient AI positions should be provided to allow the mandated inspections to be completed, and planning resources should be aligned to support TISE requirements for track access (Paragraphs 225, 227, 230 and 268).	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
11 11/09/2006 44/2007 Derailment at Waterloo South sidings 1565 points Status: Implemented	Network Rail should provide sufficient technical resources to select and manage sub-contractors engaged in rail grinding activity effectively. This should include the pre-scoping of any non-routine work and the undertaking of on-site checks including periodic technical audits. Standard 053 repairs should not be attempted unless the work has been scoped in advance by an appropriately experienced and qualified person (Paragraph 247 and 274).	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.
12 11/09/2006 44/2007 Derailment at Waterloo South sidings 1565 points Status: Implemented	Network Rail should review inspection regimes at recognised high-risk sites (ie sites with little used turnouts, a history of sidewear, or a turnout of similar flexure) to ensure these are effective. This should consider the introduction of bespoke inspection regimes such as more frequent visual inspections or periodic detailed inspections regardless of the degree of wear apparent (Paragraph 259).	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 29/04/2007 04/2008 Track worker fatality at Ruscombe Junction Status: Implemented	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 (paragraph 238). Included in the revised documentation should be a clear definition of the term ‘approaching train’ (paragraph 194).	Network Rail has reported that it has taken actions in response to this recommendation. The RAIB is aware that Network Rail and RSSB have now clarified the meaning of the term 'approaching train' and issued a definition for the guidance of staff. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
2 29/04/2007 04/2008 Track worker fatality at Ruscombe Junction Status: Implemented	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 (paragraph 239).	Network Rail has reported that it has taken actions (by alternative means) in response to this recommendation. Network Rail has carried out a review of safety leadership and competence issues. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
4 29/04/2007 04/2008 Track worker fatality at Ruscombe Junction Status: Implemented	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 (paragraphs 242 and 245).	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
5 29/04/2007 04/2008 Track worker fatality at Ruscombe Junction Status: Implemented	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 (paragraph 243).	Network Rail has reported that it has taken actions (by alternative means) in response to this recommendation. The RAIB notes that the proportion of maintenance activities carried out on lines that are open to traffic is continuing to fall. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
6 29/04/2007 04/2008 Track worker fatality at Ruscombe Junction Status: Implemented	Network Rail should introduce a procedure that mandates the briefing of Safety Bulletins to its staff within specified timescales (paragraph 246).	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 15/01/2007 07/2008 Derailment of a passenger train near Kemble Status: Implemented	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 (paragraphs 112, 113).	Network Rail has reported that its database has been enhanced in order to better identify 'catch wall' structures vulnerable to failure. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
2 15/01/2007 07/2008 Derailment of a passenger train near Kemble Status: Implemented	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 (paragraph 113).	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.
4 10/08/2007 16/2008 Derailment at Duddeston Junction, Birmingham 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.	The ORR has informed the RAIB that it has concluded that whilst a recommendation requiring duty holders to consider the full range of loads is not unreasonable it is questionable whether the proposed mechanism for doing so would produce any tangible benefits given the limited history and data of this type of incident and the process change from Vehicle Acceptance Bodies to Notified Bodies. ORR has ensured this issue was raised with ERA when drafting the revised Freight Wagon TSI and that it would also bring the recommendation to the attention of the Notified Body forum at its next meeting scheduled for 7 April 2011. The RAIB is concerned that this risk needs to be addressed by means of a suitable process and is awaiting to hear the outcome of ORR discussions with industry parties.$

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5 10/08/2007 16/2008 Derailment at Duddeston Junction, Birmingham Status: In-progress ▲	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 expected to be encountered by the wagon in service.	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 Santon in 2008 (ref. no. 10/2009). 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 Santon recommendation 9). RAIB is awaiting further information on the outcome of these discussions.
6 10/08/2007 16/2008 Derailment at Duddeston Junction, Birmingham Status: In-progress ▲	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.	The recommendation required Freightliner to re-evaluate the FEA-B wagon wheel unloading performance to ensure compliance with GM/RT 2141. The RAIB has expressed a concern to ORR that following the re-evaluation Freightliner has approved the loading of a 30 tonne 20' container next to a tare 40' on FEA-B wagons (a non-compliance with their procedures at the time of the accident). Consequently the actions they have taken following the RAIB recommendation may have exacerbated the previous risk. 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 Santon recommendation 9).$
1 29/08/2007 19/2008 Accident at Leatherhead Status: Implemented	Network Rail should prohibit red zone working at Leatherhead Junction (paragraphs 110, 119) (reported by Network Rail as already complete).	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.
2 29/08/2007 19/2008 Accident at Leatherhead Status: Implemented	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. (paragraph 112, Appendix F).	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.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
3	29/08/2007	19/2008	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 (paragraph 111d, Appendix F)).	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.
Accident at Leatherhead				
Status: In-progress				
4	29/08/2007	19/2008	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 (paragraph 111c, Appendix F).	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.
Accident at Leatherhead				
Status: Implemented				
5	29/08/2007	19/2008	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 (paragraph 118).	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.
Accident at Leatherhead				
Status: Implemented				
6	29/08/2007	19/2008	Network Rail should revise the standards and procedures for the inspection of S&C on the routes referred to in Recommendation 5, so that: S&C inspections are carried out by specialist staff who are appropriately trained; and S&C inspection takes place in green zone conditions. (paragraph 118).	Network Rail has reported revising and reissuing its standards and reviewed track patrol across the network to ensure a safe system of work for each patrol. NR also report that it is trialling video inspection of S&C. ORR considers that the intent of the recommendation has been met. The RAIB observes that the need for specialist staff to carry out S&C inspection has yet to be fully addressed.
Accident at Leatherhead				
Status: Implemented				

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1 23/02/2007 20/2008 Derailment at Grayrigg Status: In-progress	1. 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	In the case of sub-recommendations 1e,1f and 1g the RAIB observes that the information provided to date is insufficient to judge whether substantive actions have been taken to address the area of risk identified. However, the RAIB notes that there is an agreed programme for the completion of these activities.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
			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.	
2 Derailment at Grayrigg Status: In-progress	23/02/2007	20/2008	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). Network Rail should implement processes to: a. 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; b. use the data from a) above to monitor failure and intervention rates locally and nationally in the behaviour of S&C components; c. identify precursor faults that might lead to more serious failures; and d. identify those precursor faults where the failure and intervention rates indicate a need to reduce the risk of catastrophic failure	Network Rail anticipates submitting to ORR its formal case for closure of this recommendation by the middle of 2012. ORR reports that Network Rail is nearing completion of a strategy to enhance its asset information intelligence and will use this to inform its ongoing development of a revised design and risk based standards.
3 Derailment at Grayrigg Status: In-progress	23/02/2007	20/2008	The intention of this recommendation is that Network Rail should implement the measures it identifies from Recommendations 2. Network Rail should introduce processes to implement any design modifications arising from Recommendation 2 using the principles outlined in Recommendation 1.	Network Rail has stated to ORR that it considers implementation to be complete; the ORR is still seeking further information to verify whether this is the case. Substantive actions that appear to address the area of risk identified in the investigation report are planned/in progress and a date for completion is defined.
4 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	The intention of this recommendation is that Network Rail should move to a riskbased regime for the maintenance and inspection of S&C. 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.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
5 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. Network Rail should include in maintenance standards and instructions: • 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.	ORR reports that Network Rail has completed implementation of this recommendation.
6 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. Network Rail should review its processes for S&C examination so that the following are included: a. examination for, and reporting of, signs of flange-back contact; and b. measuring, recording and reporting gauge, free wheel clearance and residual switch opening dimensions,at frequencies commensurate with adequate risk control.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
7 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. Network Rail should modify its maintenance instructions to define: • 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.	ORR reports that Network Rail has completed implementation of this recommendation.
8 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	The intention of this recommendation is that Network Rail should provide its front line staff with clear information on permitted residual switch opening dimensions. 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.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
9 23/02/2007 20/2008 Derailment at Grayrigg Status: Implemented	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. Network Rail should review management systems and associated documentation covering the maintenance of S&C systems so that signalling maintenance staff: a. have ready access to all relevant documentation on and off site; b. are reminded on site of all the required maintenance actions; c. positively record that each required maintenance action has been carried out; and d. are subject to regular supervisory checks to verify that actions that are required to be taken have been carried out to the required quality.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
10 23/02/2007 20/2008 Derailment at Grayrigg Status: In-progress	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. 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: a. the contents of task instructions issued to staff undertaking basic visual inspections; b. the nature of defects that can occur and how to detect those that are difficult to readily observe; c. job cards to advise the start and finish locations and the direction of the inspection for every occasion; d. the information supplied to a patroller before an inspection in terms of clearly-presented intelligence on previously-reported defects; e. the scope of information that is to be recorded during an inspection (including definition of the need to record or comment on previouslyreported defects); Recommendations: Matters observed in the investigation: f. the requirement to make positive statements about areas of the inspection where no defects have been found; g. the checks for completeness that should be made within the track section manager's office, including verification that every inspection has been carried out; h. the analysis and supervision that should be undertaken to confirm that inspections are being conscientiously completed; and i. a suitable level of continuity that can be achieved by identifying individual patrollers with individual sections.	Sub-recommendations 10c, 10d, 10h and 10i remain open. An action plan agreed with ORR has established a target for completion in December 2012.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
11 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. 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: a. all the paperwork relevant to the basic visual inspection (see Recommendation 10) is supplied to the supervisor; and b. 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.	ORR reports that Network Rail has completed implementation of this recommendation.
12 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. 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.	ORR reports that Network Rail has completed implementation of this recommendation.
13 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. 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.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
14 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	The intention of this recommendation is that Network Rail should have adequate monitoring of S&C failure precursors. 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.	ORR reports that Network Rail has completed implementation of this recommendation.
15 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. Network Rail should extend its compliance and assurance processes to include independent end product checks on a sample of its S&C asset to: • 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; • observe for defects or problems that, although the asset and systems may comply with the appropriate standards, may effect the safety of the line.	ORR reports that Network Rail has completed implementation of this recommendation.
16 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. 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.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
17 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	The intention of this recommendation is that Network Rail should review whether there is currently adequate access for inspection on its main-line routes. 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.	ORR reports that Network Rail has completed implementation of this recommendation.
18 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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. 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.	ORR reports that Network Rail has completed implementation of this recommendation.
19 Derailment at Grayrigg Status: Implemented	23/02/2007	20/2008	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 inspections43. Network Rail should re-assess the differing requirements of plain line and S&C track inspections with regard to: • 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. Consideration should be given to separate processes for plain line and S&C inspections to recognise the different requirements of each.	ORR reports that Network Rail has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status			Safety Recommendation	Summary of Current Status
20	23/02/2007	20/2008	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. 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.	ORR has informed the RAIB that it accepts that Network Rail is adopting best practice principles in its current S&C engineering safety management and is continuing monitor the actions taken in response to the Grayrigg recommendations RAIB is happy to note that the ORR has committed to review the actions taken by Network Rail in response to recommendations 1-19 to confirm that they are aligned with engineering safety management principles.
Derailment at Grayrigg Status: Implemented				
21	23/02/2007	20/2008	The intention of this recommendation is to ensure that, in the short term, ORR explicitly includes S&C in its delivery plan assignments for as long as it remains an identified high risk in the ORR's assessment. In the longer term the intention is to ensure that the ORR includes assignments for all the higher risk items within its delivery plan, irrespective of the topic in which it is grouped. The ORR should amend its process for planning and briefing the annual delivery plan to make explicit when an area of high risk is to be included within an individual assignment.	ORR reports that it has taken action in response to this recommendation.
Derailment at Grayrigg Status: Implemented				
22	23/02/2007	20/2008	The intention of this recommendation is to minimise the risk of injury from detachment of seats in the event of an accident, by enhancing the requirement in the current design standard, for seats to deform in a ductile manner when overloaded, particularly in the lateral direction. RSSB should make a proposal in accordance with the Railway Group Standards code to introduce a specific requirement in the relevant interiors design standard, that future seats designs, including those that may be fitted at refurbishment, should demonstrate a ductile deformation characteristic, when overloaded in the vertical, lateral or longitudinal directions, in order to minimise the risk of complete detachment in accidents.	ORR reports that RSSB has taken action in response to this recommendation.
Derailment at Grayrigg Status: Implemented				
23	23/02/2007	20/2008	The intention of this recommendation is to minimise the risk of injury arising from the detachment of heavy internal panels in the event of an accident. RSSB should consider, and where appropriate, make a proposal in accordance with the Railway Group Standards code to implement a requirement in the relevant design standard to provide sufficient means of retention for internal panels assessed as capable of causing serious injury in the event of complete detachment.	ORR reports that RSSB has taken action in response to this recommendation.
Derailment at Grayrigg Status: Implemented				

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
24 23/02/2007 20/2008 Derailment at Grayrigg Status: In-progress 	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. 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.	This recommendation asked for a review of the mounting of the reading light panels on Class 390 Pendolinos and to take steps to minimise occupant injury. Whilst actions have been reported that should result in improved new locks, retrofitting the fleet with improved locks or other means of panel retention was not considered to be reasonably practicable by the dutyholders and ORR, on the basis they deemed that the locks' retention failed when the design load had been exceeded and the risk associated with the current locks is therefore acceptable. The RAIB notes that following the inquest in November 2011, HM Coroner South & East Cumbria reported his concerns about the quality of the evaluation carried out by Virgin and Angel Trains and the adequacy of the actions taken to date. ORR has informed the RAIB that Virgin Trains and Angel Trains have commissioned an independent review of the cost-benefit analysis that was carried out in relation to this issue. ORR advises that it will consider the outcome of this review and inform the RAIB of its position in due course.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
25 23/02/2007 20/2008 Derailment at Grayrigg Status: Implemented 	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. RSSB should: a. 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. b. 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; c. 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; d. 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 e. 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.	This recommendation intended that the industry should capture learning related to vehicle crashworthiness arising from Grayrigg, and where appropriate, make changes to standards. ORR has reported that the Rail Safety and Standards Board (RSSB) has considered and assessed the reasonable practicability of the recommendation and concluded that no changes to current standards are justified. ORR has concluded that RSSB has given due consideration to this recommendation. However, the RAIB remains concerned that potential lessons regarding vehicle roll over strength, and vehicle penetration resistance may not have been captured. The RAIB is proposing to inform the industry (by means of the Vehicle/Vehicle System Interface Committee) of its residual concerns regarding the status of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
26 23/02/2007 20/2008 Derailment at Grayrigg Status: Implemented	The intention of this recommendation is to assist the emergency services to optimise their response to an accident. Cumbria Police should carry out a review of, and change as appropriate, its management, procedures and training relating to the rapid and accurate location of an accident from information received in emergency calls in the control room so that received information is filtered effectively and without loss of significant data.	Cumbria Police reports that it has completed implementation of this recommendation.
27 23/02/2007 20/2008 Derailment at Grayrigg Status: Implemented	The intention of this recommendation is to promote the safety of Ambulance Service personnel who are called upon to carry out rescue work after a railway accident. The Department of Health's eleven mainland Ambulance Service NHS Trusts, the Welsh Ambulance Services NHS Trust and the Scottish Ambulance Service should: • agree and implement suitable processes so that their staff are suitably trained for work on the railway; and • agree a protocol with Network Rail to cover the necessary steps for the ambulance services to enter Network Rail property safely in an emergency.	The Ambulance Services have reported that they have completed implementation of this recommendation.
28 23/02/2007 20/2008 Derailment at Grayrigg Status: Implemented	The intention of this recommendation is to improve communications between rescue organisations after an accident. 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.	The Ministry of Defence reports that it has completed implementation of this recommendation.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
29 23/02/2007 20/2008 Derailment at Grayrigg Status: Implemented 	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. a. 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. b. Using the output of the research, Network Rail should establish procedures to deliver compliance with the thresholds identified.	This recommendation was intended to improve the controls of working hours of safety critical staff. In the RAIB's opinion, it is outstanding and contributes to a concern regarding the management of worker fatigue. Whilst the ORR has reported to the RAIB that alternative measures have been taken by Network Rail to implement this particular recommendation, the ORR has also reported to the RAIB that it remains concerned about the way the industry is managing fatigue and has recognised the need for improvement in this area. ORR has written to Network Rail asking it to review its approach and awaits its response.
3 29/11/2007 21/2008 Fatal accident to a trackworker east of Reading Station 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 (paragraphs 160 and 171).	Network Rail have carried out a review in response to this recommendation and concluded that the existing arrangements for protecting possessions will be retained. Network Rail propose no further action. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate. However ORR is continuing to press for improvements in this area. RAIB is concerned that the safety benefits of alternatives for possession management are no longer being pursued. In particular, the RAIB is concerned that the placing of protection at the boundary of engineering possessions exposes the staff involved to the the risk of being struck by a train.
4 29/11/2007 21/2008 Fatal accident to a trackworker east of Reading Station 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' (paragraph 164),and incorporate in this the means to assess the workload of those tasked with undertaking these inspections.	Network Rails's initial response to this recommendation is that its existing arrangements are adequate. The recommendation, and issues associated with the workload of track maintenance management staff, are still under review by ORR. The RAIB remains concerned that mangement staff have insufficient time to observe the behaviour of staff when working on site. Further evidence is presented in the RAIB report into two safety incidents between Clapham and Earlsfield in March 2011.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
5 29/11/2007 21/2008 Fatal accident to a trackworker east of Reading Station 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 (paragraph 169), or consider installing a semi-permanent possession limit board system.	Network Rail advises that the actions taken in response to recommendations 2 and 3 will address the risk, no action is therefore proposed.
2 22/08/2007 23/2008 SPAD and subsequent near miss at Didcot North Junction Status: Implemented	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. (paragraphs 234b and 236) When addressing this recommendation Network Rail should ensure that risk assessors are competent and have access to accurate input data (paragraph 230).	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 25/10/2007 24/2008 Mnr collision engineering unit & 2 manual trolleys nr St. John's Wood Status: Implemented	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 (paragraphs 192 and 199).	Consilla Ltd has reported that it has reviewed and adjusted the design and setup of its MTRL-1 trailer braking systems. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
5 25/10/2007 24/2008 Mnr collision engineering unit & 2 manual trolleys nr St. John's Wood Status: Implemented	Consillia Ltd should prepare a maintenance document detailing the maintenance procedures and testing arrangements for MEC-4 electric track trolleys and MTRL-1 trailers and schedules to be carried out by either Consillia Ltd or Tube Lines (paragraph 193).	Consilla Ltd 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
10 25/10/2007 24/2008 Mnr collision engineering unit & 2 manual trolleys nr St. John's Wood Status: Implemented	Consillia Ltd should review its design validation and testing process against current industry good practice (e.g. Engineering Safety Management: the 'Yellow Book', Issue 4.0). Any necessary improvements identified should be implemented (paragraph 194).	Consilia Ltd 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 28/02/2008 25/2008 Network Rail's Management of Existing Earthworks 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: a) the use of inspection intervals of one, five and ten years (paragraph 97); b) local maintenance staff not reporting all precursor earthworks related defects – these may have rectification measures applied locally without further reporting (paragraph 190); c) 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 (paragraph 189); d) track inspection staff not routinely looking over cutting horizons (paragraph 137); e) a high focus by track inspection staff on track support areas and particularly embankments to the detriment of other earthworks elements (paragraph 138); f) track maintenance staff not having the capability, knowledge or time available to routinely inspect off-track issues – for example water in neighbouring land (paragraph 138); g) the potential for earthworks examiners to not observe all relevant factors and indicators, because of the infrequent and seasonal visits (paragraph 95); h) 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 (paragraph 68); i) the risk weighting attached to the operational consequence of an earthworks failure (paragraph 88); and j) the value of information sources used in other inspections and whether this could be utilised in the reduction of risk from an earthworks failure (paragraph 154).	Network Rail has reported that it has carried out an extensive review of its processes for earthwork examination and management (including surveys of drainage). ORR is assessing the adequacy of Network Rails response.

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6 28/02/2008 25/2008 Network Rail's Management of Existing Earthworks 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 (paragraphs 111 to 114).	Network Rail has reported that it has carried out an extensive review of its processes for earthwork examination and management (including surveys of drainage). ORR is assessing the adequacy of Network Rails response.
2 20/01/2008 26/2008 Near miss nr Bishops Stortford and Stanstead Mountfitchet, Essex 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 (paragraph 135).	Network Rail has reported that it has taken actions (by alternative means) in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
4 20/01/2008 26/2008 Near miss nr Bishops Stortford and Stanstead Mountfitchet, Essex Status: Non-implementation	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 (paragraph 136).	Network Rail have 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. RAIB notes that Network Rail has concluded that its existing arrangements are adequate.
1 16/04/2008 27/2008 Fatal accident at Moor Lane footpath crossing, Staines Status: Implemented	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 (paragraph 143b).	Network Rail has reported that it has installed anti-slip surfacing at 20 footpath crossings. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate. The RAIB was anticipating that a larger number of footpath crossings would be installed with anti-slip surfacing as a consequence of this recommendation. However, the RAIB has been informed by ORR of its intention to take appropriate action when it becomes aware of other deficient crossings.
2 16/04/2008 27/2008 Fatal accident at Moor Lane footpath crossing, Staines Status: Implemented	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 (paragraph 143c).	Network Rail has reported that it has issued a handbook to cover the correct management of data in order to reduce the likelihood that identified level crossing improvement works will be omitted in error. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 16/04/2008 27/2008 Fatal accident at Moor Lane footpath crossing, Staines Status: Implemented	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 (paragraph 145a).	Network Rail has reported that it is carrying out a review of how risk at level crossings are being managed. This includes: data collection at level crossings; risk analysis (including the consideration of local factor); and assessment of options for improvement. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
4 16/04/2008 27/2008 Fatal accident at Moor Lane footpath crossing, Staines Status: Implemented	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 (paragraph 131).	Network Rail has reported that it has provided enhanced guidance to its staff concerning the position and layout of warning signs. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
2 22/06/2007 02/2009 Derailment at Ely Dock Junction 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 (paragraph 359).	Lafarge has reported that it has carried out a test programme to assess the extent of frictional lock-up in the suspension of PHA type wagons and modified wagons are currently being trialled. The RAIB is concerned to note that a train comprising unmodified PHA type wagons derailed at Bordesley Junction on 26 August 2011. The RAIB investigation has revealed that frictional lock up of the suspension was a causal factor . This recent derailment reinforces the need to review the performance of the modified wagons and to implement a permanent solution.
3 22/06/2007 02/2009 Derailment at Ely Dock Junction 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 (paragraphs 359, 360, 363 and 374)	Following the derailment at Ely in June 2007, the relevant freight operator carried out a test programme to assess the extent of frictional lock-up in the suspension of PHA type wagons. Following those tests a number of potential modifications to the suspension were identified and in April 2010 two PHA wagons were modified; these were then subject to testing between May and September 2010 and then another 16 months of trial running. In January 2012 the trial running was concluded and subsequently a campaign of modifications was launched. The RAIB is concerned to note that a train comprising unmodified PHA type wagons derailed at Bordesley Junction on 26 August 2011. The RAIB investigation has revealed that frictional lock up of the suspension was likely to have been a causal factor . The RAIB has suggested to ORR that special attention be given to completion of the planned modifications to PHA wagons to reduce the risk of derailment due to frictional lock-up of the suspension. $

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4 22/06/2007 02/2009 Derailment at Ely Dock Junction 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 (paragraphs 360 and 365).	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.
5 22/06/2007 02/2009 Derailment at Ely Dock Junction Status: Implemented	Network Rail should instruct all private wagon owners on the importance of compliance with POCL 484, and in particular with the requirement to mark wagons that have been shimmed for frame twist correction (paragraphs 359, 364 and 374 to 377)	Network Rail has reported that private wagon owners have been rebriefed on measures to mitigate the risk of excess frame twist. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
7 22/06/2007 02/2009 Derailment at Ely Dock Junction Status: Implemented	Network Rail should brief private wagon owners to retain maintenance records relating to wagons and provide an auditable history on sale or transfer (paragraphs 359 and 375).	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.
8 22/06/2007 02/2009 Derailment at Ely Dock Junction Status: Implemented	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 (paragraphs 347 and 364 to 366)	Network Rail has reported that maintenance requirements for privately owned wagons have been reviewed and updated. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
9 22/06/2007 02/2009 Derailment at Ely Dock Junction Status: Implemented	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 (paragraphs 362 and 372)	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.
10 22/06/2007 02/2009 Derailment at Ely Dock Junction Status: Implemented	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 (paragraphs 359 and 372).	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
14 22/06/2007 02/2009 Derailment at Ely Dock Junction Status: Implemented	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 (paragraph 359).	English Welsh and Scottish Railway (DB Schenker Rail Uk Ltd) 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 03/09/2007 04/2009 Derailment near Exhibition Centre station, Glasgow Status: Implemented	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).	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.
2 03/09/2007 04/2009 Derailment near Exhibition Centre station, Glasgow Status: Implemented	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.	Network Rail have 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.
3 03/09/2007 04/2009 Derailment near Exhibition Centre station, Glasgow 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 in paragraph 152.	Following the risk assessment taken in response to recommendation 2, Network Rail concluded that further reseach was not appropriate. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
4 03/09/2007 04/2009 Derailment near Exhibition Centre station, Glasgow Status: Implemented	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.	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. These issues are being reviewed as part of the RAIB's investigation into the derailment of an empty passenger train at Princes Street Gardens, Edinburgh, in July 2011.$
1 25/03/2008 07/2009 Derailment of a freight train near Moor Street station, Birmingham Status: Implemented	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.	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 25/03/2008 07/2009 Derailment of a freight train near Moor Street station, Birmingham Status: Implemented	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.	Network Rail 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.
3 25/03/2008 07/2009 Derailment of a freight train near Moor Street station, Birmingham Status: Implemented	DB Schenker Rail (UK) Ltd should review their maintenance and operation procedures so that VIBT intervals are compliant with the stated specification.	DB Schenker Rail (UK) Ltd has reported that it has reviewed the actual maintenance performed on wagons to check that the requirements of the maintenance plan were being complied with and taken the necessary corrective actions.
8 13/06/2008 13/2009 Investigation into safety at user worked crossings Status: In-progress	The Department for Transport, in consultation with the Office of Rail Regulation, should review the requirements for signs prescribed by law for use at private crossings, and revise them as necessary, taking into account the need to convey information and instructions clearly and unambiguously to diverse users.	RAIB understands that this issue is to be addressed as part of RSSB a research project into signs at private road level crossings. This will be co-ordinated with research into the causes of pedestrian accidents at level crossings.
1 27/07/2008 17/2009 Collision near New Southgate Status: In-progress	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: 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.	HST owners, National Express East Coast and other HST operators have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
2 21/10/2008 20/2009 Near miss at Llanbadarn ABC (Locally monitored), near Aberystwyth Status: Implemented	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	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
7 21/10/2008 20/2009 Near miss at Llanbadarn ABC (Locally monitored), near Aberystwyth Status: Implemented	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.	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.
4 07/12/2008 23/2009 Trackworker struck by train, Stevenage Status: Implemented	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.	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.
6 07/12/2008 23/2009 Trackworker struck by train, Stevenage Status: Implemented	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.	Network Rail has reported taking actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate
1 26/04/2008 24/2009 Freight train collision at Leigh-on-Sea 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.	Network Rail have carried out a review in response to this recommendation (details). A joint industry workshop was held on 23 February 2010 chaired by the RSSB with representatives from Network Rail, Amey Colas, Babcock Rail, Volker Rail, Jarvis Fastline, Balfour Beatty Rail and DB Schenker. The purpose of this workshop was to consider a number of incidents that had occurred involving train movements towards and over CCTV level crossings within possessions since 2007 which included the incident at Leigh-on-Sea. Network Rail noted that it was particularly useful in that attendees included PICOP and ES practitioners working within possessions. Network Rail further advised that the workshop generated a good debate with all parties including issues relating to Recommendation 1. The consensus from within the group was that the existing rules were adequate but the application was weak. It was suggested that completion of a form when authority for a movement was given would not be a practicable solution, for example when unloading ballast the form would need to be completed for every 50 yard movement. It was also considered that there could be a danger if a form was used that did not accurately reflect conditions at that point in time, for example by showing a level crossing as being on local control when this was no longer the case. Network Rail propose no further action.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 26/04/2008 24/2009 Freight train collision at Leigh-on-Sea 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.	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.
3 26/04/2008 24/2009 Freight train collision at Leigh-on-Sea Status: Implemented	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.	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.
5 29/06/2008 25/2009 Derailment at St Peter's Square, Manchester Status: Implemented	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.	ORR has reported that it has taken actions in response to this recommendation.
3 22/11/2008 32/2009 Double fatality at Bayles & Wylies FPC, Bestwood, Nottingham Status: Implemented	The purpose of this recommendation is to reduce the unique risks of Bayles and Wylies crossing to as low as reasonably practicable: 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.	ORR report that this recommendation has been implemented on the basis of a risk assessment carried out by Network Rail.
1 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	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 (paragraph 255a). 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. Paragraphs 261 to 263 outline work that Network Rail has reported it is currently doing regarding this.	Network Rail has reported that it has carried out extensive examinations of metal bridges having features that could conceal corrosion occurring on critical structural parts. This has included a check that critical dimensional assumptions are correct. ORR proposes to take no further action unless they become aware that the information provided becomes innacurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	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 (paragraph 256a). 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.	Network Rail has reported that it has issued a technical specification specifying engineering requirements for exposure of hidden critical elements and the methods to be used when exposing them and reporting their condition. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
3 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	The intention of this recommendation is to develop effective and practical methods for examining the hidden parts of bridges (paragraphs 255a and 256a). 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.	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	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) (paragraph 255a). 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: 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.	Network Rail has reported that is reviewing its standards and procedures for the design and approval of modified bridges. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
5 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: In-progress	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 (paragraphs 256a, 256b, 256c, 256d, 256e, 257a, 257b and 257c) Network Rail should review its processes for the management of bridges, and their implementation, and make changes to confirm that: 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. Paragraphs 266a, 266b, 266c and 266f outline improvements that Network Rail has reported it has already made regarding this.	Network Rail has reported that it is reviewing and upgrading its data management systems and processes as they apply to the management of structures. This includes arrangements for ensuring that examiners are provided with information related to previously identified defects. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
6 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: In-progress	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 (paragraphs 256d and 256e) 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.	Network Rail has reported that it is reviewing and upgrading its data management systems and processes as they apply to the management of structures. This includes arrangements for ensuring that examiners are provided with information related to previously identified defects. ORR are seeking further information.
7 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: In-progress	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 (paragraphs 255b, 257a, 257c and 258). 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. Paragraph 264 outlines work that Network Rail has reported that it is currently doing with regards to this.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
8 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	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 (paragraphs 255b, 257a, 257c and 258) Network Rail should review its procedures for the assessment of structures, and make necessary changes, to: 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. Paragraph 266e outlines enhancements that Network Rail has reported it has already made regarding this.	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
9 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	The intention of this recommendation is that appropriate action is taken in the event of future reports of urgent defects on bridges (paragraph 256d and 257c) 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: reliably delivered to the correct personnel; and used to develop and implement appropriate actions. Paragraph 266c outlines improvements that Network Rail has reported it has already made regarding this.	Network Rail has reported that it has reviewed its processes for managing urgent defects on bridges. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
10 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	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 a 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, Scunthorpe42 (paragraph 260). 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.	Network Rail have carried out the evaluation in response to this recommendation and concluded that it is not reasonably practicable to use track geometry data recorded by measurement trains in the way envisaged by the recommendation. Network Rail propose no further action. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate. The RAIB is concerned that measurement trains provide useful data that could give an early indication of a structural failure. While noting the conclusion of Network Rail's evaluation the RAIB is urging the industry to find ways of making maximum use of data collected by measurement trains.$

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11 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: In-progress	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 (paragraph 259a). 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.	All owners of tank wagons have reviewed the design to evaluate measures that could be taken to protect external equipment, in general they have concluded that their existing designs protect the necessary equipment or that the cost of modification is disproportionate to the safety benefit. ORR has also informed the RAIB that following assessments by owners, one fleet of tank wagons is now undergoing modifications in order to provide additional protection to valves in the event of derailment or overturning.
12 27/01/2009 02/2010 Derailment of a freight train near Stewarton, Ayrshire Status: Implemented	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 (paragraph 259b). 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. The requirements in the current version of the RID regulations regarding end protection are outlined in paragraph 246.	DfT submitted a paper to an international committee of experts. This committee considered that there is no case for extending the requirement to end protection measures to a wider range of liquid products. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: In-progress	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	Docklands Light Railway Ltd has reported that it has taken actions in response to this recommendation. ORR are seeking further information.
2 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: In-progress	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	Docklands Light Railway Ltd, in consultation with Serco Docklands have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: Implemented	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. 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	Serco Docklands 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 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: In-progress	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. Docklands Light Railway Ltd should replace all point position indicators with ones that are more conspicuous (when lit) as soon as reasonably practicable.	Docklands Light Railway Ltd have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
5 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: Implemented	The intention of this recommendation is to improve the effectiveness of control centre controllers during degraded operations. 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.	Serco Docklands 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
6 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: Implemented	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. 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: 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	Docklands Light Railway Ltd 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.
7 10/03/2009 03/2010 Derailment of a DLR train near West India Quay station, London Status: Implemented	The intention of this recommendation is to improve the effectiveness of all staff involved when operating in emergency shunt mode. 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: 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.	Serco Docklands 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 22/03/2009 04/2010 Incident at Greenhill Upper Junction, near Falkirk Status: In-progress	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 (paragraphs 204a, b and 208d).	Network Rail has reported that it has taken actions in response to this recommendation. ORR are seeking further information.
2 22/03/2009 04/2010 Incident at Greenhill Upper Junction, near Falkirk Status: In-progress	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 (paragraphs 204c, 206a and 208c).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 22/03/2009 04/2010 Incident at Greenhill Upper Junction, near Falkirk Status: In-progress	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: a. whether or not the signaller's indications should be monitored during the out of correspondence test (paragraphs 204d and 209a); b. the method of carrying out the detection test of HW type point machines (paragraph 209b); and c. 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 (paragraph 209c).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
4 22/03/2009 04/2010 Incident at Greenhill Upper Junction, near Falkirk Status: In-progress	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. 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: l a project specification; l the issue of design drawings; l a strategy for the testing, including the resources required; l the appointment of the tester in advance; l a written test plan; and l a system that documents the completion of specific stages of the testing (paragraphs 205a, 208a, b, c and d).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
5 22/03/2009 04/2010 Incident at Greenhill Upper Junction, near Falkirk Status: In-progress	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. 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 (paragraph 208a).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
6 22/03/2009 04/2010 Incident at Greenhill Upper Junction, near Falkirk Status: In-progress	The purpose of this recommendation is to improve the system by which copies of maintenance drawings, marked with handwritten annotations showing alterations, are updated. 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 (paragraph 209d).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
4 27/03/2009 05/2010 Near-miss at Hanger Lane junction Status: Implemented	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 (paragraph 136). The purpose of this recommendation is to improve guidance issued to managers.	LUL 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 01/06/2009 06/2010 Derailment of a passenger train near Cummersdale, Cumbria Status: Implemented	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.	Network Rail has reported that it has taken actions (by alternative means) in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 01/06/2009 06/2010 Derailment of a passenger train near Cummersdale, Cumbria Status: Implemented	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.	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.
3 01/06/2009 06/2010 Derailment of a passenger train near Cummersdale, Cumbria Status: Implemented	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.	Network Rail has reported that it has taken actions (by alternative means) in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
4 01/06/2009 06/2010 Derailment of a passenger train near Cummersdale, Cumbria Status: Implemented	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. 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.	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.
5 01/06/2009 06/2010 Derailment of a passenger train near Cummersdale, Cumbria Status: Implemented	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. 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.	Northern 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 28/09/2009 07/2010 Derailment at Hampton Loade, Severn Valley Railway Status: Implemented	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.	Severn Valley 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.
2 28/09/2009 07/2010 Derailment at Hampton Loade, Severn Valley Railway Status: Implemented	SVR should revise its SMS to reference the engineering department company standards.	Severn Valley 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.
3 28/09/2009 07/2010 Derailment at Hampton Loade, Severn Valley Railway Status: Implemented	SVR should re-brief all staff and volunteers on the SMS and their responsibilities within it.	Severn Valley 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 28/09/2009 07/2010 Derailment at Hampton Loade, Severn Valley Railway Status: Implemented	SVR should review their management structure with the aim of making changes to improve the communication of safety related information within the railway.	Severn Valley 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.
5 28/09/2009 07/2010 Derailment at Hampton Loade, Severn Valley Railway Status: Implemented	SVR should put in place procedures to ensure that audits of compliance with the SMS are carried out in a timely and effective manner.	Severn Valley 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 05/08/2009 09/2010 Fatal accident at Norbreck, Blackpool Status: Implemented	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.	Blackpool Transport Services has reported that it has reviewed speed limits and associated signage (including at level crossings). ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
2 05/08/2009 09/2010 Fatal accident at Norbreck, Blackpool Status: Implemented	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.	Blackpool Transport Services 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 04/01/2010 10/2010 Collision at Exeter St Davids station Status: In-progress	The purpose of this recommendation is to alert train drivers to the possibility of low adhesion conditions in the vicinity of level crossings located in close proximity to other hazards. Train operators should, for locations where hazards exist immediately beyond a level crossing such as high risk signals, bay platforms or stations with permissive working, highlight within their route risk assessments and route learning and briefing material the possibility of drivers encountering unexpected low adhesion conditions at that crossing and the risk arising from wheel slide.	Many TOCs have responded and confirmed that actions have been taken in response to the recommendation. More detailed responses are awaited from other TOCs.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 11/10/2009 11/2010 Derailment at Windsor & Eton Riverside station Status: In-progress	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.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
2 11/10/2009 11/2010 Derailment at Windsor & Eton Riverside station Status: In-progress	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.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
3 11/10/2009 11/2010 Derailment at Windsor & Eton Riverside station Status: In-progress	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.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 25/08/2009 14/2010 Derailment at Wigan North Western station Status: Implemented	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.	DB Schenker has reported that it has reviewed and updated its specification for checking for twist when examining its wagons. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
2 25/08/2009 14/2010 Derailment at Wigan North Western station Status: In-progress	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.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
3 25/08/2009 14/2010 Derailment at Wigan North Western station Status: In-progress	This recommendation is intended to prevent errors from previous earthwork examinations being carried forward into later examination reports. 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.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
4 25/08/2009 14/2010 Derailment at Wigan North Western station Status: In-progress	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.	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 02/12/2009 15/2010 Fatal accident at Whitehall West junction, Leeds Status: In-progress	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.	Awaiting information from Network Rail. ORR are seeking further information.
2 02/12/2009 15/2010 Fatal accident at Whitehall West junction, Leeds Status: Implemented	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.	The UK Ambulance services have reported that actions have been taken in response to this recommendation. Yorkshire Ambulance Service has reported to the RAIB that technological advances have led to improved mapping functionality. They also report that data from Network Rail has been input to their database to assist the location of access points.
1 29/09/2009 16/2010 Fatal accident at Halkirk level crossing, Caithness Status: In-progress	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 (paragraph 135b).	Network Rail has reported that it has issued enhanced guidance on the alignment of the road traffic signals and the maintenance of backboards. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 29/09/2009 16/2010 Fatal accident at Halkirk level crossing, Caithness Status: Implemented	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 (paragraph 135c).	Network Rail has reported that it has commissioned an analysis of human factors issues associated with speed limit, and other signs, in proximity to level crossings. ORR proposes to take no further action unless it becomes aware that the information provided becomes inaccurate. The RAIB notes that Network Rail has asked RSSB to initiate some research work in this area and that this will be developed and considered by the Road Rail Interface Safety Group on which ORR has observer status.
3 29/09/2009 16/2010 Fatal accident at Halkirk level crossing, Caithness Status: Implemented	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 (paragraph 136a).	Network Rail has advised the RAIB that they plan to commision an upgraded crossing at Halkirk no later than March 2014. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.
4 29/09/2009 16/2010 Fatal accident at Halkirk level crossing, Caithness Status: Implemented	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 asthe previous incident and accident history. 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 (paragraph 136a).	Network Rail has reported that they are developing a process to take into account the previous history of a level crossing when carrying out risk assessments. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
5 29/09/2009 16/2010 Fatal accident at Halkirk level crossing, Caithness Status: In-progress	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. 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 (paragraph 137a).	Network Rail has reported that it has issued enhanced guidance on the alignment of the road traffic signals and the maintenance of backboards. ORR are seeking further information.
6 29/09/2009 16/2010 Fatal accident at Halkirk level crossing, Caithness Status: In-progress	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. 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 (paragraph 137b).	Network Rail has reported that the design of road traffic signal hoods is under review and testing of an alternative design is being undertaken. ORR are seeking further information. Network Rail have reviewed the size of long hoods, ORR are waiting for confirmation that suitable guidance has been issued to staff.
1 15/11/2009 17/2010 Failure of Bridge RDG1 48 (River Crane) between Whitton & Feltham Status: In-progress	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 (paragraph 103a).	Network Rail has reported that it is identifying structures spanning water courses that require examination for obstructions and a process for managing this risk. Signs will be installed at those structures identified as being at risk. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 15/11/2009 17/2010 Failure of Bridge RDG1 48 (River Crane) between Whitton & Feltham Status: In-progress	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 (paragraph 104a).	Network Rail has reported that it is identifying structures spanning water courses that require examination for obstructions and a process for managing this risk. Signs will be installed at those structures identified as being at risk. ORR are seeking further information.
3 15/11/2009 17/2010 Failure of Bridge RDG1 48 (River Crane) between Whitton & Feltham Status: In-progress	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. 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 (paragraph 105a). This may include: a. 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 (paragraph 65); b. 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 (paragraph 64); and c. 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 (paragraph 68).	Network Rail has reported that it has reviewed the information and resources required to undertake effective examinations of structures. It is implementing changes to its processes and carrying out audits to confirm the adequacy of examinations. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 15/11/2009 17/2010 Failure of Bridge RDG1 48 (River Crane) between Whitton & Feltham Status: In-progress	The purpose of recommendation 4 is to improve the assessment of scour risk. 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 (paragraph 105b).	Network Rail is reviewing its underwater examination task list to check for, and correct, omissions. ORR are seeking further information.
5 15/11/2009 17/2010 Failure of Bridge RDG1 48 (River Crane) between Whitton & Feltham Status: In-progress	The purpose of recommendation 5 is to give infrastructure managers the opportunity to respond to scour risk where identified by an EA inspection. 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 (paragraph 105c).	The Environmental Agency is in the process of finalising a Memorandum of Understanding which will include the sharing of information. The RAIB is awaiting confirmation that this work is complete.
6 15/11/2009 17/2010 Failure of Bridge RDG1 48 (River Crane) between Whitton & Feltham Status: In-progress	The purpose of recommendation 6 is to reduce the risk of a secondary incident occurring following the failure of a structure. 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 (paragraph 106).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 19/12/2009 18/2010 Near-miss on Victory level crossing, near Taunton, Somerset Status: Non-implementation	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 (paragraphs 95a and 96a).	Network Rail have 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 22/12/2009 02/2011 Near miss involving a freight train & two passenger trains, Carstairs Status: Implemented	The intent of this recommendation is to mitigate the effects of a driver extending the interval between running brake tests when their locomotive-hauled train is climbing a rising gradient15. It aims to mitigate any potential reduction in braking performance caused by snow or ice ingress. It will also improve the effectiveness of the existing running brake test in snowy conditions by detecting any such reductions. Freight operating companies in conjunction with the Rail Safety and Standards Board should make a proposal to review the existing arrangements in section 18.2 of module TW1 of the Rule Book for running brake tests in snowy conditions. The review should consider the practicalities of carrying out running brake tests when driving locomotivehauled trains on rising gradients and identify how these rules can be modified if drivers have not carried out a running brake test for more than five minutes. Options for consideration should include a requirement that drivers of locomotive-hauled trains should make a full service brake application and sufficiently retard their train as soon as they have passed over a summit and onto a descending gradient (paragraphs 142a, 142b, 143b and 146a).	Following discussions with the freight train operators modifications have been made to the railway rule book to clarify the actions to be taken when carrying out running brake tests in snowy conditions. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 22/12/2009 02/2011 Near miss involving a freight train & two passenger trains, Carstairs Status: Implemented	The intent of this recommendation is to ensure that any risks to the safety of the line resulting from falling or disturbed snow affecting different types of rolling stock are assessed and that rolling stock specific risk controls are considered in advance of adverse weather. For example, when snow is falling or is being disturbed by the passage of trains, there is less potential for snow and ice ingress when trains run at a reduced speed. A lower speed also allows the train to stop in a shorter distance than it would otherwise if it had a problem with its brakes due to snow or ice. Freight operating companies should carry out a review of the safety impact of their freight trains operating in snowy conditions. The review should take into account the likelihood of different types of rolling stock disturbing lying snow and the consequent impact on the operation of their brake equipment. The findings should inform a consideration of the need for rolling stock specific risk control measures to be imposed when justified by the conditions. These could include reducing the maximum permitted speed of some types of train, additional actions by train staff and the re-routing of certain types of rolling stock away from adverse winter weather or from routes containing steep gradients (paragraphs 141a, 141b, 143a, 144a and 146b).	Freight operating companies have reported 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.
3 22/12/2009 02/2011 Near miss involving a freight train & two passenger trains, Carstairs Status: Implemented	The intent of this recommendation is to address an anomaly in the Rule Book which requires trains that can travel at more than 100 mph (161 km/h) to reduce their speed by 10 mph (16 km/h) below the permissible line speed (down to a minimum of 50 mph (80 km/h)), which does not apply to other trains, including freight trains, that can run at speeds above 50 mph (80 km/h). Freight operating companies in conjunction with the Rail Safety and Standards Board should make a proposal to modify the existing arrangements in section 18.3 of module TW1 of the Rule Book, by making this rule applicable to all trains (paragraphs 141a, 141b, 143a, 144a and 146b).	A proposal for alteration of the rules was made and approved by the Standards Committee for industry consultation. Following further discussion with industry it was concluded that a blanket restriction was inappropriate and that individual operators should develop their own policy in line with an approved code of practice. The ORR has informed the RAIB that it is content that the code of practice issued by the freight operators adequately covers the need to provide drivers with guidance on the safe speed of trains in snowy conditions. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: Implemented	The purpose of this recommendation is to improve the effectiveness of the existing running brake test undertaken in snow in detecting or preventing any reduction in the brake forces available to a train when it is climbing steep gradients. Freight operating companies, in conjunction with the Rail Safety and Standards Board, should make a proposal to review module TW1 of the Rule Book in order to establish if additional measures (such as bringing trains to a stand when starting to descend from summits) are required for trains working on steep gradients when snow is falling or being disturbed. The requirements and guidance within DB Schenker's special operating advice notices for working in extreme weather conditions and the Rail Freight Operations Group's code of practice for operating freight services in winter should be examined for their suitability as a basis for these additional requirements (paragraphs 211a, 211b, 212c and 216a).	Freight operating companies, in conjunction with the Rail Safety and Standards Board, have reported 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.
2 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: In-progress	The purpose of this recommendation is to ensure that risks to safety on steep gradients during periods of falling or disturbed snow are assessed and that appropriate control measures are considered in advance of adverse weather. It is also intended to extend the current use of line-side snow signs to other sites assessed as requiring such additional risk control measures. Network Rail, in consultation with train operators, should assess any lines which include steep gradients in order to establish if additional risk control measures (such as bringing trains to a stand prior to descending from summits) may be required during periods when snow is falling or being disturbed by the passage of trains. Any steep gradients assessed as requiring additional risk control measures in these conditions should be designated in the appropriate sectional appendix and marked by the use of lineside snow signs (paragraphs 211a, 211b, 212c and 216a).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: In-progress	The purpose of this recommendation is to ensure that the potential risks involved in the prolonged use of stock equipped with miniature snow ploughs to clear snow from lines are understood and that Network Rail staff involved in the management of extreme weather are made aware of any risk control measures identified. Network Rail, in consultation with train operators, should assess the risks of an accumulation of snow being left on or close to the line as a result of the prolonged use of miniature snow ploughs to clear lines of snow. Any appropriate risk control measures (such as additional instructions within route winter working arrangements) that are identified should be implemented (paragraphs 213a, 214a and 217a).	Network Rail has reported that it has reviewed issues associated with the use of miniature snow ploughs. ORR are seeking further information.
4 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: In-progress	The purpose of this recommendation is to ensure that the risk of an overrun of signal AC336 is reviewed in line with existing industry requirements to ensure that it is acceptably low. It is also intended to ensure that the secondary risk introduced by trap points at other similar locations is considered. Network Rail should consider if there are additional measures which could reduce the overrun risk at signal AC336 and implement those measures found to be reasonably practicable to introduce. This consideration should include the undertaking of a detailed assessment as required by Network Rail standard NR/L2/SIG/14201. Network Rail should have regard to the guidance and requirements regarding trap points within Railway Group Guidance Note GI/GN 7606 and Railway Group Standard GK/RT 0064 and should specifically consider the risks to the public of an overrun at this signal. Network Rail should also review where trap points have been used to control overrun risk at similar locations in order to establish that any secondary risks introduced by their use have been adequately assessed and mitigated (paragraph 219).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR is taking further action to establish whether further engineering controls in the design of the run out are reasonably practicable and if so secure their implementation.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 30/03/2010 06/2011 Track worker struck by a train at Cheshunt Junction Status: In-progress ▲	The intention of this recommendation is to achieve consistently safe systems of work at junctions. Network Rail should assess the hazards and risk at each of its junctions where working with lookout protection is currently permitted with the objective of producing for each a set of predefined Safe Systems of Work taking into account local factors. These should identify the acceptability of this method of working, the protection arrangements for each part of the junction or work activity, and the specific position of safety (paragraph 155).	ORR has informed the RAIB that Network Rail has stated that it does not intend to take the actions outlined in this recommendation. The RAIB has raised its concern that better guidance is needed for Controllers of Site Safety and planners when considering safe systems of work at junctions.
1 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: In-progress	The purpose of this recommendation is for Network Rail to be able to identify third party land upon which trees present the greatest risk to the railway. Network Rail should review and enhance its processes for gathering intelligence about neighbouring land where there may be a higher risk of tree fall affecting the railway. This might be achieved by modifying the remit for the national tree survey, before this is repeated, and/or by providing suitable guidance to local off-track teams (paragraph 95).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
2 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: In-progress	The purpose of this recommendation is for Network Rail to raise the awareness of its neighbours to the risk their trees may present to the operational railway. Network Rail should develop and implement a plan, or adapt and enhance existing plans, to communicate with those of its neighbours whose land is considered to present a high risk of tree fall affecting the railway. The objective should be to inform them about their responsibilities and the threat their trees may present to the railway (paragraph 94).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
3 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: Implemented	The purpose of this recommendation is to reduce the potential for confusion about the location of an accident, incident or any event requiring safety-critical communication to take place. Network Rail should brief its signallers about the importance of reaching a clear understanding about the location of the incident/accident when taking any safety-critical call. Such understanding should make reference to signal numbers and/or mileposts unless it is impractical for this information to be provided (paragraph 96a).	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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: Implemented	The purpose of this recommendation is for First Great Western to improve the effectiveness of the use of mobile telephones in an emergency situation. First Great Western should review its policy for the use of mobile telephones to take account of Rail Industry Standard on the Use of Mobile Telephonic Equipment in Driving Cabs, RIS-3776-TOM. This review should include consideration of how to make current emergency contact numbers available to traincrew (paragraph 96b).	First Great Western 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.

Recommendations made in RAIB reports published in 2011

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Status of Recommendations

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 06/03/2010 01/2011 Passenger train struck by object at Washwood Heath	The purpose of this recommendation is to put in place a clear requirement to have safe system of work documentation for staff and OTP checked by a competent person other than its author. Network Rail should put in place a system that requires that all safe systems of work documents, including any subsequent changes, are independently checked by a competent person, and audit compliance with it.	Awaiting response
2 06/03/2010 01/2011 Passenger train struck by object at Washwood Heath	The purpose of this recommendation is to improve management surveillance and supervision at Saltley IMDU to detect instances of individual supervisors implementing unsafe systems of work and to reinforce the worksafe procedure. Network Rail should determine why its management systems did not prevent the unsafe system of work being used for the relaying and make the necessary changes to prevent recurrence. The investigation should also consider why staff did not attempt to invoke the worksafe procedure and how the worksafe procedure can be made more effective.	Awaiting response
3 06/03/2010 01/2011 Passenger train struck by object at Washwood Heath	The purpose of this recommendation is to extend the work that Network Rail is currently undertaking on behavioural issues associated with track worker safety to improve the training and assessment of existing staff (linked to recommendation 9 from the RAIB's Trafford Park investigation). Network Rail should extend the work it is undertaking to improve the methods and criteria used when selecting staff to undertake safety leadership roles to include consideration of the training and assessment of those staff who are already qualified in those roles.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 06/03/2010 01/2011 Passenger train struck by object at Washwood Heath	The purpose of this recommendation is to ensure the adequacy of checks with the requirements of the rule book within possessions (including protection of adjacent open lines). Network Rail should review the adequacy of its arrangements for the routine checking of compliance with the rule book within possessions, including checks on compliance with rule book module OTP in respect of adjacent lines open to traffic. The review should consider the frequency of such checks and the competency of those involved. Any improvements identified as part of this review should be implemented.	Awaiting response
1 22/12/2009 02/2011 Near miss involving a freight train & two passenger trains, Carstairs Status: Implemented	The intent of this recommendation is to mitigate the effects of a driver extending the interval between running brake tests when their locomotive-hauled train is climbing a rising gradient15. It aims to mitigate any potential reduction in braking performance caused by snow or ice ingress. It will also improve the effectiveness of the existing running brake test in snowy conditions by detecting any such reductions. Freight operating companies in conjunction with the Rail Safety and Standards Board should make a proposal to review the existing arrangements in section 18.2 of module TW1 of the Rule Book for running brake tests in snowy conditions. The review should consider the practicalities of carrying out running brake tests when driving locomotivehauled trains on rising gradients and identify how these rules can be modified if drivers have not carried out a running brake test for more than five minutes. Options for consideration should include a requirement that drivers of locomotive-hauled trains should make a full service brake application and sufficiently retard their train as soon as they have passed over a summit and onto a descending gradient (paragraphs 142a, 142b, 143b and 146a).	Following discussions with the freight train operators modifications have been made to the railway rule book to clarify the actions to be taken when carrying out running brake tests in snowy conditions. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 22/12/2009 02/2011 Near miss involving a freight train & two passenger trains, Carstairs Status: Implemented	The intent of this recommendation is to ensure that any risks to the safety of the line resulting from falling or disturbed snow affecting different types of rolling stock are assessed and that rolling stock specific risk controls are considered in advance of adverse weather. For example, when snow is falling or is being disturbed by the passage of trains, there is less potential for snow and ice ingress when trains run at a reduced speed. A lower speed also allows the train to stop in a shorter distance than it would otherwise if it had a problem with its brakes due to snow or ice. Freight operating companies should carry out a review of the safety impact of their freight trains operating in snowy conditions. The review should take into account the likelihood of different types of rolling stock disturbing lying snow and the consequent impact on the operation of their brake equipment. The findings should inform a consideration of the need for rolling stock specific risk control measures to be imposed when justified by the conditions. These could include reducing the maximum permitted speed of some types of train, additional actions by train staff and the re-routing of certain types of rolling stock away from adverse winter weather or from routes containing steep gradients (paragraphs 141a, 141b, 143a, 144a and 146b).	Freight operating companies have reported 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.
3 22/12/2009 02/2011 Near miss involving a freight train & two passenger trains, Carstairs Status: Implemented	The intent of this recommendation is to address an anomaly in the Rule Book which requires trains that can travel at more than 100 mph (161 km/h) to reduce their speed by 10 mph (16 km/h) below the permissible line speed (down to a minimum of 50 mph (80 km/h)), which does not apply to other trains, including freight trains, that can run at speeds above 50 mph (80 km/h). Freight operating companies in conjunction with the Rail Safety and Standards Board should make a proposal to modify the existing arrangements in section 18.3 of module TW1 of the Rule Book, by making this rule applicable to all trains (paragraphs 141a, 141b, 143a, 144a and 146b).	A proposal for alteration of the rules was made and approved by the Standards Committee for industry consultation. Following further discussion with industry it was concluded that a blanket restriction was inappropriate and that individual operators should develop their own policy in line with an approved code of practice. The ORR has informed the RAIB that it is content that the code of practice issued by the freight operators adequately covers the need to provide drivers with guidance on the safe speed of trains in snowy conditions. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: Implemented	The purpose of this recommendation is to improve the effectiveness of the existing running brake test undertaken in snow in detecting or preventing any reduction in the brake forces available to a train when it is climbing steep gradients. Freight operating companies, in conjunction with the Rail Safety and Standards Board, should make a proposal to review module TW1 of the Rule Book in order to establish if additional measures (such as bringing trains to a stand when starting to descend from summits) are required for trains working on steep gradients when snow is falling or being disturbed. The requirements and guidance within DB Schenker's special operating advice notices for working in extreme weather conditions and the Rail Freight Operations Group's code of practice for operating freight services in winter should be examined for their suitability as a basis for these additional requirements (paragraphs 211a, 211b, 212c and 216a).	Freight operating companies, in conjunction with the Rail Safety and Standards Board, have reported 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.
2 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: In-progress	The purpose of this recommendation is to ensure that risks to safety on steep gradients during periods of falling or disturbed snow are assessed and that appropriate control measures are considered in advance of adverse weather. It is also intended to extend the current use of line-side snow signs to other sites assessed as requiring such additional risk control measures. Network Rail, in consultation with train operators, should assess any lines which include steep gradients in order to establish if additional risk control measures (such as bringing trains to a stand prior to descending from summits) may be required during periods when snow is falling or being disturbed by the passage of trains. Any steep gradients assessed as requiring additional risk control measures in these conditions should be designated in the appropriate sectional appendix and marked by the use of lineside snow signs (paragraphs 211a, 211b, 212c and 216a).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: In-progress	The purpose of this recommendation is to ensure that the potential risks involved in the prolonged use of stock equipped with miniature snow ploughs to clear snow from lines are understood and that Network Rail staff involved in the management of extreme weather are made aware of any risk control measures identified. Network Rail, in consultation with train operators, should assess the risks of an accumulation of snow being left on or close to the line as a result of the prolonged use of miniature snow ploughs to clear lines of snow. Any appropriate risk control measures (such as additional instructions within route winter working arrangements) that are identified should be implemented (paragraphs 213a, 214a and 217a).	Network Rail has reported that it has reviewed issues associated with the use of miniature snow ploughs. ORR are seeking further information.
4 04/01/2010 03/2011 Derailment of freight train at Carrbridge, Badenoch & Strathspey Status: In-progress	The purpose of this recommendation is to ensure that the risk of an overrun of signal AC336 is reviewed in line with existing industry requirements to ensure that it is acceptably low. It is also intended to ensure that the secondary risk introduced by trap points at other similar locations is considered. Network Rail should consider if there are additional measures which could reduce the overrun risk at signal AC336 and implement those measures found to be reasonably practicable to introduce. This consideration should include the undertaking of a detailed assessment as required by Network Rail standard NR/L2/SIG/14201. Network Rail should have regard to the guidance and requirements regarding trap points within Railway Group Guidance Note GI/GN 7606 and Railway Group Standard GK/RT 0064 and should specifically consider the risks to the public of an overrun at this signal. Network Rail should also review where trap points have been used to control overrun risk at similar locations in order to establish that any secondary risks introduced by their use have been adequately assessed and mitigated (paragraph 219).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR is taking further action to establish whether further engineering controls in the design of the run out are reasonably practicable and if so secure their implementation.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 16/01/2010 04/2011 Fatal accident at Moreton-on-Lugg, near Hereford	The intention of this recommendation is, where necessary, to implement engineered safeguards at level crossings similar to Moreton-on-Lugg. The objective is to reduce the risk of signallers opening the crossing to road users when a train is approaching, particularly as a result of interruptions or other out-of-course events. Network Rail should identify level crossings operated by railway staff where a single human error could result in the road being opened to the railway when a train is approaching. At each such crossing, Network Rail should consider and, where appropriate, implement engineered safeguards. Safeguards for consideration should include additional reminder appliances, alarms to warn of the approach of trains, approach locking, locking of the route, run-by controls, and local interlocking of train detection and signalling systems with level crossing controls (paragraphs 175 and 178).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 16/01/2010 04/2011 Fatal accident at Moreton-on-Lugg, near Hereford	The intention of this recommendation is that implementation of Network Rail's level crossing risk management process will identify and assess the risks from all aspects of the design, operation and maintenance of equipment and systems, including signalling, so that mitigation measures can be identified and implemented. Network Rail should enhance its level crossing risk management process to include identification, assessment and management of the risk associated with: human error by signallers and crossing keepers; operational arrangements, in particular with regard to the ability of operators to cope with interruptions, such as telephone calls, and other out-of-course events; equipment design, in particular where it is not compliant with latest design standards; and maintenance and inspection arrangements, particularly where these are used to identify and remedy any equipment functional and performance deficiency. The process should allow for sufficient liaison between the relevant engineering and operational departments. When addressing risks identified by the implementation of the revised process, Network Rail should prioritise the implementation of required mitigation measures to level crossings where consequences of operator error are severe and not protected by engineered safeguards (paragraphs 171, 172a, 172b, 173, 174a, 174b, 176b and 177).	Awaiting response
3 16/01/2010 04/2011 Fatal accident at Moreton-on-Lugg, near Hereford	The intention of this recommendation is to ensure that whenever signalling renewal or major maintenance work is planned, those responsible understand when it is necessary to formally evaluate the opportunity to improve compliance with the latest engineering standards. Network Rail should develop and implement (paragraph 176a): criteria for when it is necessary to formally assess the need to bring existing signalling and level crossing assets in line with latest design standards; and a process to record the findings of such assessments.	Awaiting response

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4 16/01/2010 04/2011 Fatal accident at Moreton-on-Lugg, near Hereford	The intention of this recommendation is for Network Rail to understand the risk posed by the use of non-critical information systems in signal boxes and implement practical mitigation measures. Network Rail should assess the risk associated with the use of TRUST, and similar information systems, by signallers when undertaking safety critical activities, and implement appropriate mitigation measures. This assessment should include a review of the extent to which signallers may be distracted or misled, and the influence of factors such as the location and orientation of any associated equipment (paragraphs 171 and 172b).	Awaiting response
1 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for data from any equipment used to assess the track asset to show clearly what safety faults have been identified and where they are located. This will help to promote a situation where those track faults that are more reliably detected by asset inspection equipment are acted upon. London Underground, in consultation with Tube Lines, should arrange for all data on track faults identified by asset inspection equipment, such as the asset inspection train, to be presented clearly. The procedures for managing the data should indicate how required remedial actions are planned, prioritised and executed by those in receipt of the data (paragraph 148b).	Awaiting response
2 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for London Underground to make improvements to the way in which track faults are identified and classified during track inspections, thus reducing the risk that faults will be overlooked. London Underground, in consultation with Tube Lines, should review standard 1-159 'Track- dimension and tolerances' with a view to making changes to the standard or take other appropriate steps to make it easier for patrollers and inspectors to identify and record issues of concern (paragraph 151a).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is to allow sufficient time for track patrols and inspections. This will enable staff to meet the requirements of the relevant standards for these activities, so that track faults are not missed. Tube Lines should review and revise its patrol route risk assessments, and inspection routes, taking account of human factors issues, to ensure there is sufficient time available to complete thorough and detailed patrolling and inspection activities in accordance with relevant standards (paragraph 149a).	Awaiting response
4 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for patrollers and inspectors to be adequately trained and undertake regular assessments to ensure their ongoing competence. Tube Lines should review its training and competence management processes for patrollers and inspectors. The review should aim to establish a comprehensive training programme for each grade of staff and a regular cycle of rigorous competence assessments (paragraphs 148a and 149b).	Awaiting response
5 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for Tube Lines to modify its processes to make sure it assesses the effect of vacancies in safety-critical positions within Tube Lines asset maintenance organisation immediately. This should enable appropriate steps to be taken so that there is no detrimental effect on safety-critical activity. Tube Lines should modify its processes to include the requirement to actively monitor and assess safety critical vacancies within its asset maintenance organisation. Where key vacancies are identified the reasons for not filling the post should be explored and assessments undertaken to understand and control the risk arising. The review of key vacancies should not be limited to management grades but should include key personnel, such as those involved in asset inspections and asset condition recording (paragraph 151d).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
6 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for Tube Lines to ensure that systematic and regular reviews are undertaken of the quality of track patrols and inspections, including the recording of faults found and their rectification. This should achieve a more rapid identification of lapses in the quality of track patrols and inspections which could result in safety-critical faults not being identified and rectified. Tube Lines should improve its assurance processes to ensure a robust system of assurance activities is undertaken, with particular emphasis on practical activities. The activities should target the quality of track patrols and inspections, and the identification and prioritisation of faults. The improvements should include a process for following-up and rectifying issues identified (paragraphs 150a, and 151d).	Awaiting response
7 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for London Underground to make improvements to its processes for following-up issues found during its audit and surveillance of Tube Lines track maintenance activities. London Underground should improve its assurance processes to ensure that issues identified during audit and surveillance of Tube Lines track maintenance activities are actively monitored and addressed by Tube Lines in a timely manner (paragraph 150a).	Awaiting response
8 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for London Underground to consider how the level of risk from ML faults should be evaluated after patrols and inspections have taken place in order to clarify the action required where there are multiple faults. London Underground, in partnership with its track maintainers, should review standard 1-159 ‘Track- dimension and tolerances’ with the aim of providing guidance on the assessment of risk from ML faults. The guidance should address how the effect of other ML or SS faults in the same location or immediate vicinity should be evaluated so that impending problems at particular locations can be identified (paragraph 151b).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
9 12/05/2010 05/2011 Derailment engineering train between Gloucester Rd & Earls Ct LU	The purpose of this recommendation is for Tube Lines to consider the use of technology to assist patrollers and inspectors in recording and classifying track faults, thereby reducing the risk that faults will be overlooked. Tube Lines should review current technologies and, following production of an action plan, implement any that can assist patrollers and inspectors. This should include the consideration of the use of hand-held computer devices to record and classify faults and geometry recording equipment that can be moved along the track to record parameters such as track gauge and twist (paragraph 148a).	Awaiting response
1 30/03/2010 06/2011 Track worker struck by a train at Cheshunt Junction Status: In-progress	The intention of this recommendation is to achieve consistently safe systems of work at junctions. Network Rail should assess the hazards and risk at each of its junctions where working with lookout protection is currently permitted with the objective of producing for each a set of predefined Safe Systems of Work taking into account local factors. These should identify the acceptability of this method of working, the protection arrangements for each part of the junction or work activity, and the specific position of safety (paragraph 155).	ORR has informed the RAIB that Network Rail has stated that it does not intend to take the actions outlined in this recommendation. The RAIB has raised its concern that better guidance is needed for Controllers of Site Safety and planners when considering safe systems of work at junctions.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 30/03/2010 06/2011 Track worker struck by a train at Cheshunt Junction	The intention of this recommendation is to address the concern that extended sighting times, and consequent early warnings from lookouts, can cause staff to react with less urgency to initial warnings or to adopt unauthorised systems of work. Network Rail should evaluate the behaviour of staff working on the track at locations with extended sighting times. The objective of this evaluation shall be: a. to understand the methods adopted by track workers at such locations; b. to assess the risk introduced by extended warning times; c. to assess the risk introduced by any alternative working practices that may be identified by staff; and d. to consider the need for additional guidance to the COSS and other safety critical staff. Based on its understanding of current behaviour gained from this evaluation, Network Rail should establish a safe system of work to cover activities at locations with extended sighting times (paragraph 136).	Awaiting response
1 04/05/2010 07/2011 Runaway and derailment of wagons at Ashburys	The purpose of this recommendation is to make a 'pull test' with the power brake released a requirement when leaving wagons on their handbrake regardless of whether the driver is on his own or is working with a shunter. Freight operators should ensure that their operating instructions include a 'pull test' when wagons are to be left to rely on their handbrakes for a time (DB Schenker reports that it has already taken this action).	Awaiting response
2 04/05/2010 07/2011 Runaway and derailment of wagons at Ashburys	The purpose of this recommendation is to ensure that the manufacturers' maintenance requirements for components are incorporated in the maintenance plan for the whole vehicle and that this is kept up to date. VTG should check that its maintenance plans incorporate the latest maintenance recommendations of suppliers of safety critical components used on the vehicles and update as necessary.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 04/05/2010 07/2011 Runaway and derailment of wagons at Ashburys	The purpose of this recommendation is to ensure that other wagons with the SAB/Haldex AA1 type slack adjuster are correctly inspected and maintained, including wagons covered by the PWRA. Operators of wagons fitted with SAB/Haldex AA1 type slack adjusters should, in conjunction with the maintainers and owners as appropriate, ensure that the maintenance plans are reviewed to confirm that they incorporate the manufacturer's current recommendations on their inspection and maintenance. Network Rail PWRA should issue a private owners circular letter to this effect to PWRA members.	Awaiting response
4 04/05/2010 07/2011 Runaway and derailment of wagons at Ashburys	The purpose of this recommendation is to find out whether it is practicable to put in place some means for rail organisations to be made aware of relevant component safety information arising from other industries. RSSB should investigate the practicability of distribution of safety information from other industries to the rail industry with regard to components that are common to both industries.	Awaiting response
5 04/05/2010 07/2011 Runaway and derailment of wagons at Ashburys	The purpose of this recommendation is to include a step in the VIBT procedure to examine the handbrake mechanism to check that it operates correctly and fully applies the brakes. Operators of freight wagons should, in conjunction with the maintainers and owners as appropriate, review their VIBT procedures for handbrake testing to ensure that they include checking that the handbrake is fully effective. Network Rail PWRA should issue a private owners circular letter to this effect to PWRA members.	Awaiting response
6 04/05/2010 07/2011 Runaway and derailment of wagons at Ashburys	The purpose of this recommendation is to investigate whether wagons with single disc brakes pose a risk when operating on long gradients and arrange to have any operating restrictions found necessary to be published in the operating instructions, in accordance with Group Standard GE/RT8270 'Assessment of Compatibility of Rolling Stock and Infrastructure'. DB Schenker should confirm whether the operating restriction on wagons with only one brake disc per axle is still required and, if so, arrange for the restriction to be published.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: In-progress	The purpose of this recommendation is for Network Rail to be able to identify third party land upon which trees present the greatest risk to the railway. Network Rail should review and enhance its processes for gathering intelligence about neighbouring land where there may be a higher risk of tree fall affecting the railway. This might be achieved by modifying the remit for the national tree survey, before this is repeated, and/or by providing suitable guidance to local off-track teams (paragraph 95).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
2 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: In-progress	The purpose of this recommendation is for Network Rail to raise the awareness of its neighbours to the risk their trees may present to the operational railway. Network Rail should develop and implement a plan, or adapt and enhance existing plans, to communicate with those of its neighbours whose land is considered to present a high risk of tree fall affecting the railway. The objective should be to inform them about their responsibilities and the threat their trees may present to the railway (paragraph 94).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.
3 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: Implemented	The purpose of this recommendation is to reduce the potential for confusion about the location of an accident, incident or any event requiring safety-critical communication to take place. Network Rail should brief its signallers about the importance of reaching a clear understanding about the location of the incident/accident when taking any safety-critical call. Such understanding should make reference to signal numbers and/or mileposts unless it is impractical for this information to be provided (paragraph 96a).	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.
4 10/07/2010 08/2011 Collision between train IC84 and a tree at Lavington, Wiltshire Status: Implemented	The purpose of this recommendation is for First Great Western to improve the effectiveness of the use of mobile telephones in an emergency situation. First Great Western should review its policy for the use of mobile telephones to take account of Rail Industry Standard on the Use of Mobile Telephonic Equipment in Driving Cabs, RIS-3776-TOM. This review should include consideration of how to make current emergency contact numbers available to traincrew (paragraph 96b).	First Great Western 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 13/08/2010 09/2011 Runaway of an engineering train from Highgate	This recommendation is intended to provide sufficient and appropriate inputs to the future introduction of new and modified engineering trains and rail mounted plant. LUL should, with assistance from Tube Lines, review and, where necessary, amend processes and practices so that adequate design, checking, approval and testing is provided for new and modified engineering trains and rail mounted plant. The processes and practices should include specifying and allocating sufficient staff with appropriate qualifications, defining the individual responsibilities and providing effective coordination between them (paragraphs 216b, 216d, 216e, 216f, 220a and 220b).	Awaiting response
2 13/08/2010 09/2011 Runaway of an engineering train from Highgate	This recommendation is intended to identify and remedy any existing approvals where the extent of specialist inputs may have been insufficient to provide reasonable assurance of compliance with the standards applicable at the time of approval. In respect of engineering trains and rail mounted plant supplied by (or through) TransPlant: LUL should, with assistance from Tube Lines, review all existing approvals to determine whether the inputs to the approval process were sufficient to give reasonable assurance that adequate safety standards are met by safety critical equipment, operating procedures and documentation. If inputs were insufficient to give this assurance, LUL, with assistance from Tube Lines, should introduce a time-bound process to implement the measures needed to comply with appropriate safety standards (paragraphs 216b, 216d, 216e, 216f, 220a and 220b).	Awaiting response
3 13/08/2010 09/2011 Runaway of an engineering train from Highgate	This recommendation is intended to provide sufficient experienced staff involvement to the investigation of allegedly defective equipment so that lessons are learnt from equipment malfunctions before these result in an accident. LUL should, with assistance from Tube Lines, review and, where necessary, amend the processes and practices used to investigate allegedly defective equipment. This review should cover the specification and implementation of adequate testing and the assessment of both defects and test results (paragraph 217).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 13/08/2010 09/2011 Runaway of an engineering train from Highgate	This recommendation is intended to clarify the responsibilities of, and provide adequate instructions and training for, people involved in the recovery of engineering trains and rail mounted plant. The training process should include a means for identifying and resolving any problems, or improvements, identified during the training. LUL should, with assistance from Tube Lines, review and clarify the responsibilities of all staff who may be involved in the recovery of engineering trains and rail mounted plant. Where necessary, processes should be implemented to provide these staff with appropriate instructions, training and practice. This training process should include appropriate actions to be taken if problems, or possible improvements, are identified during training (paragraphs 216c, 218, 219 and 220c).	Awaiting response
5 13/08/2010 09/2011 Runaway of an engineering train from Highgate	This recommendation is intended to minimise the risks associated with the operation of unbraked vehicles at the end of trains. LUL should, with assistance from Tube Lines, provide guidance and instructions to ensure a safe system of work to recover vehicles with defective or ineffective braking (paragraphs 216a, 216b and 220a).	Awaiting response
6 13/08/2010 09/2011 Runaway of an engineering train from Highgate	The intention of this recommendation is to identify any shortcomings in the quality assurance processes applied to organisations supplying TransPlant with plant and equipment including design services. LUL should audit Tube Lines' supplier quality assurance system, as applied to TransPlant's suppliers, with particular emphasis on ensuring that responsibilities for design, checking and approval are clearly defined and then allocated only to people and organisations which have been verified as having the necessary competencies. LUL should close out this audit after ensuring that Tube Lines have undertaken any necessary corrective actions (paragraph 221).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
7 13/08/2010 09/2011 Runaway of an engineering train from Highgate	The intention of this recommendation is to identify any shortcomings in the quality assurance processes applied within LUL in relation to the supply of safety critical design services by Tube Lines and organisations working for Tube Lines. LUL should review the level of assurance provided by LUL's audit regime for the design elements of safety critical services provided to LUL, by Tube Lines and its suppliers. If the existing audit regime does not provide an adequate level of assurance, LUL should introduce a time-bound process to implement the measures needed to achieve an adequate level of assurance (paragraph 221).	Awaiting response
1 20/07/2010 10/2011 Runaway and collision of RRV near Raigmore, Inverness	The intention of this recommendation is that RRVs of the type involved in the accident should be modified to prevent the circumstances arising in the future. Liebherr-Great Britain Ltd should undertake modifications to the type 1033, and similar RRVs (those RRVs with this type of interlocking design), to avoid the scenario where a machine that is in a free-wheel state is prevented from raising or lowering either rail axle. This should be achieved without the need for the machine operator to override the interlock function (paragraphs 204a, 204c).	Awaiting response
2 20/07/2010 10/2011 Runaway and collision of RRV near Raigmore, Inverness	The intention of this recommendation is to improve the ergonomics and labelling of the RRV controls. Liebherr-Great Britain Ltd should undertake a review of the design of the human-machine interface on the type 1033, with particular reference to: ergonomics/labelling of buttons; and counter-intuitive operating procedures and specific operation of the HA and VA controls in the RRV machine cab; and implement the findings of this review on existing machines, and amend its procedures to require an ergonomic assessment to be included in the design process (paragraph 205a).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 20/07/2010 10/2011 Runaway and collision of RRV near Raigmore, Inverness	The intention of this recommendation is that an appropriate safety integrity level (SIL) for the control systems of RRV machines should be established and implemented on future builds. Network Rail should undertake a review of the safety requirements that it specifies for RRVs, with the objective of determining an appropriate safety integrity level (SIL) for any safety functions that are required within the control systems of the machine, and implementing verification and approval arrangements that are appropriate for this SIL. This should, among other things, provide assurance that potential failure modes of interlocks, and similar safety systems, have been identified and suitably mitigated (with reference to actions taken following the RAIB's RRV Class Investigation recommendations 1 & 2) (paragraph 206).	Awaiting response
4 20/07/2010 10/2011 Runaway and collision of RRV near Raigmore, Inverness	The intention of this recommendation is that the role of the machine controller, in respect of the deployment of the rail wheels of an RRV, should be clarified. Network Rail should undertake a review of the role of the machine controller for all types of RRV during on and off-tracking, with particular emphasis on whether it is necessary for the controller to advise the machine operator on whether the rail wheels of the RRV are fully deployed (with reference to the RAIB's RRV Class Investigation recommendation 2). This review should take into account the potential for operator error and/or the malfunction of the machine (paragraph 205).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 06/06/2010 11/2011 Accident at Falls of Cruachan, Argyll	The intention of this recommendation is to ensure that for earthworks in Scotland sufficient vegetation clearance is undertaken to allow adequate examination and evaluation of slopes to determine their condition. In respect of earthworks in Scotland, Network Rail should review its existing arrangements for the clearance of vegetation to enable examinations and evaluations of earthworks to be carried out. If this review indicates that the current arrangements do not enable a sufficient understanding of their condition of earthworks to be obtained, and if there is no alternative means of assessing the risks associated with such slopes, Network Rail should define the extent of vegetation clearance that is required to enable examinations and evaluations to be carried out, and then implement a strategy for achieving it (paragraph 137a).	Awaiting response
2 06/06/2010 11/2011 Accident at Falls of Cruachan, Argyll	The intention of this recommendation is that where a cutting comprises mixed ground of soil and rock, all parts of the slope should be examined and reported. In respect of all cuttings equal to, or greater than, three metres high through mixed ground of soil and rock, Network Rail should implement arrangements so that (paragraphs 137b and 139b): in accordance with NR/L3/CIV/065, examination results are reported for both the soil and rock materials; and both the soil slope hazard index and the rock slope hazard index are reported.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 06/06/2010 11/2011 Accident at Falls of Cruachan, Argyll	The intention of this recommendation is to improve Network Rail's management of its earthworks by requiring examiners and examining engineers to give their professional judgement on the condition of earthworks; to take that judgement into account when managing earthworks; and to resolve any inconsistencies between successive condition ratings determined from the SSHI or the RSHI. Network Rail should amend its earthworks management system so that (paragraphs 137g and 139c): earthwork examiners and earthwork examining engineers record on all examination reports whether, in their professional judgement, the condition ratings determined by the SSHI and RSHI are a reasonable reflection of slope condition; where examiners and examining engineers disagree with the SSHI and/or RSHI condition ratings, their judgement of the slope condition rating should be recorded on the examination report and taken into account when deciding how to manage the earthwork; and any inconsistencies between condition ratings from successive examinations should be identified and resolved.	Awaiting response
4 06/06/2010 11/2011 Accident at Falls of Cruachan, Argyll	The intention of this recommendation is to identify whether the process for planning remediation works which includes the use of the Earthworks Prioritisation Model could be changed to improve the likelihood of remedial works being carried out before failure occurs. In the light of experience, and the associated application of professional judgement, Network Rail should review the process for planning remediation works which includes using the Earthworks Prioritisation Model and, if necessary, make any changes to it so that the likelihood of remedial works being carried out before the occurrence of the failure of earthworks is improved (paragraphs 138 and 139a).	Awaiting response
5 06/06/2010 11/2011 Accident at Falls of Cruachan, Argyll	The intention of this recommendation is to improve the calculation of the rock slope hazard index so that it gives a more realistic indication of a railway rock cutting's condition. Network Rail should review the algorithm which calculates the rock slope hazard index so that its output gives a more realistic indication of a railway rock cutting's condition (paragraph 139c).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
6 06/06/2010 11/2011 Accident at Falls of Cruachan, Argyll	The intention of this recommendation is to reduce the risk of lighting diffusers and other saloon interior panels becoming displaced and causing injuries to persons on board trains in the event of an accident. First ScotRail should assess the risk of lighting diffusers and other saloon panels in the interiors of trains that it operates becoming displaced in the event of an accident such that they may cause injuries to those on board. Any necessary remedial measures to reduce the risk should be implemented (paragraph 139d). This recommendation may also apply to other train operating companies.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 02/02/2010 12/2011 Investigation into safety of AOCLs on Network Rail's infrastructure Status: Implemented	The intention of this recommendation is that Network Rail should upgrade the highest risk AOCLs by fitting barriers, or implementing other measures to deliver an equivalent or improved level of safety, such as by closing crossings. The RAIB envisages that when identifying those crossings to be upgraded, special consideration should be given to those 32 crossings with an enhanced likelihood of a road vehicle and train collision (listed at appendix D). However, it is anticipated that Network Rail's more detailed assessment of risk, taking into account factors such as the speed of trains, may identify different and/or additional crossings for upgrade. The RAIB is aware that Network Rail's development of retrofit half barriers should allow a cost effective upgrade, but if this development is not completed and proved in the near future, the upgrading of the highest risk AOCLs should still be implemented based on existing forms of level crossing protection. In addition, the RAIB is of the view that the implementation of a programme to upgrade AOCL crossings should not be delayed by the need to review and improve existing risk assessment management arrangements (as outlined in Recommendation 3). Network Rail should immediately implement a programme to upgrade the highest risk AOCLs. The crossings for upgrade should be selected by appropriately skilled personnel, on the basis of factors that include: their past record of incidents and accidents; an assessment of risk and the safety benefit of the upgrade; and the human factors issues present at each. Upgrades should consist of fitting barriers, or other measures delivering an equivalent or improved level of safety (paragraph 153).	ORR has reported that Network Rail is looking to upgrade about 70 AOCL including all crossings identified by the RAIB. Two trial sites are to be be commisioned in Ardrossen by June 2012, upgrading of other sites planned over the next 2 years. Network Rail have 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.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 02/02/2010 12/2011 Investigation into safety of AOCLs on Network Rail's infrastructure Status: Implemented	In parallel with, but not delaying Recommendation 1 the intention of this recommendation is that Network Rail reviews the existing risk assessments of all AOCLs to identify whether all the relevant human and local factors have been identified and appropriate mitigations implemented. Where this is not the case, a prioritised programme of improvements should be implemented: Network Rail should review its risk assessments at AOCLs to identify whether: all the relevant human and local factors have been identified (consideration should be given to the human factors issues in appendix F); and all appropriate mitigation measures have been implemented. Where omissions are identified, these should be rectified by a prioritised programme of improvements (paragraph 168).	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.
3 02/02/2010 12/2011 Investigation into safety of AOCLs on Network Rail's infrastructure Status: In-progress	In parallel with, but not delaying Recommendation 1, the intention of this recommendation is to improve the risk assessment of level crossings by the correct identification of specific human factors issues and other local factors, and the implementation of appropriate mitigation measures: Network Rail should review, and as necessary update, its processes, guidance, training and briefing of its staff, on how to identify and assess the specific human and local factors at level crossings, so that it can establish whether further mitigation measures should be implemented (paragraph 169).	Network Rail has reported that it is undertaking a program of improvments to its level crossing risk management process. This includes guidance and training to assess human and local factors at level crossings. This is due to be implemented by 31 May 2012. Network Rail have 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.
4 02/02/2010 12/2011 Investigation into safety of AOCLs on Network Rail's infrastructure Status: In-progress	The intention of this recommendation is to make sure that the development of digital red light enforcement equipment is not delayed unnecessarily and that it is installed at selected AOCLs with a high incidence of violations: In collaboration with the police, Network Rail should, without unnecessary delay, complete the development of digital red light enforcement equipment and install it at selected AOCLs which have high levels of violations (paragraph 161).	Network Rail have outlined the actions to be taken in response to the recommendation. ORR are seeking further information.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 05/11/2010 13/2011 Bridge strike & RV incursion onto roof of passing train nr Oxshott Stn	The purpose of Recommendation 1 is to promote the checking of visibility markings associated with road bridges over railways as part of the existing highway safety inspection regime. Surrey County Council should reinforce the requirement for regular checks to be made (for example, as part of safety inspections carried out by staff on the condition of highways) of the ends of parapets on bridges over railways to ensure that, where provided, markers or markings are maintained in good condition and free from obstruction by vegetation or other material. Any signs of damage should be reported to the risk owner for appropriate action (paragraph 98a).	Awaiting response
2 05/11/2010 13/2011 Bridge strike & RV incursion onto roof of passing train nr Oxshott Stn	The purpose of Recommendation 2 is to provide highway authorities with guidance on the provision of visibility markings at railway overbridge parapet ends. The Department for Transport should issue guidance to highway authorities on highlighting the unprotected ends of parapets (for example by reflective markers, white paint, etc.) of bridges over railways where the end of the parapet presents a possible hazard to road users, the consequences of which could export risk to the railway (paragraph 98a).	Awaiting response
3 05/11/2010 13/2011 Bridge strike & RV incursion onto roof of passing train nr Oxshott Stn	The purpose of Recommendation 3 is to incorporate checks of visibility markings protecting railway overbridges within the existing structures examination regime, and to promote the reporting of vehicular damage to aid the identification of sites where risk mitigation may be required. Network Rail should include, within its annual examination of rail overbridges, the requirement for the structures examiner to identify and record any highway features which may increase the risk to the railway such as absence, obscuration or poor condition of parapet end markers. Network Rail should also improve its management arrangements for reporting such issues to the relevant highway authority, and when it becomes aware of damage to structures caused by road vehicles (paragraph 98b).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 05/11/2010 13/2011 Bridge strike & RV incursion onto roof of passing train nr Oxshott Stn	The purpose of Recommendation 4 is to promote the development of guidance which could enhance safety at bridges over railway lines where the Department for Transport's road vehicle incursion assessment process does not already address this. The Department for Transport, with highway authorities, should prepare guidance for highway authorities on identifying local safety hazards at bridges over railways which could be mitigated by measures such as signage, hazard marking, white lining or safety barriers, and include consideration of previous accident history and the causes of those accidents. This should include guidance on when the assessment should be undertaken and when such measures should be applied (paragraph 100).	Awaiting response
5 05/11/2010 13/2011 Bridge strike & RV incursion onto roof of passing train nr Oxshott Stn	The purpose of recommendation 5 is for Surrey County Council to provide and maintain protection at Bridge 11 (Warren Lane, Oxshott). Surrey County Council, in consultation with Network Rail, should review the optimum means of protecting or marking the parapet ends at Bridge 11 (Warren Lane, Oxshott), and apply and maintain the chosen method (paragraph 101).	Awaiting response
1 17/08/2010 14/2011 Collision tanker & train Sewage Works Lane, near Sudbury, Suffolk	The intent of Recommendation 1 is for Network Rail to remind authorised 'business' users at user worked crossings of their responsibility to brief their own employees and contractors who may not know how to use such crossings safely. Network Rail should use the circumstances of this accident to remind authorised users who are also businesses of their responsibilities to brief staff and contractors on the safe use of user worked crossings (paragraph 194b).	Awaiting response
2 17/08/2010 14/2011 Collision tanker & train Sewage Works Lane, near Sudbury, Suffolk	The intent of Recommendation 2 is for Network Rail to consider ways of managing the predictable risk that arises at user worked crossing equipped with telephones where long waiting times are frequently experienced by road users. Network Rail should consider ways of managing the risk at user worked crossings equipped with telephones where long waiting times can arise as a result of the signaller having no means of knowing where trains are located, and implement any reasonably practicable measures identified (paragraph 195a).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 17/08/2010 14/2011 Collision tanker & train Sewage Works Lane, near Sudbury, Suffolk	The intent of Recommendation 3 is for Network Rail to clarify, enhance and provide additional guidance on its requirements for information gathering and consultation with authorised users at user-worked crossings so that local factors can be properly dealt with in the risk assessment process. Network Rail should review the relevant procedures in its Operations Manual and make, as a minimum, the following requirements explicit: a. correspondence should be sent to all authorised users when trigger risk assessments are to be undertaken inviting them to participate, as well as when routine risk assessments are planned; b. engagement with authorised users should be sought as part of the response to near-miss incidents; c. reference to information held within the controlling signal box such as requests to use the crossing and the occurrence book should be a mandatory element of data gathering for all risk assessments; and d. where businesses are authorised users and have a facility in close proximity to the crossing, independent sources (such as site logs) should be sought and used, where possible, to obtain intelligence on crossing usage for all risk assessments (paragraph 195b and 195c).	Awaiting response
4 17/08/2010 14/2011 Collision tanker & train Sewage Works Lane, near Sudbury, Suffolk	The intent of Recommendation 4 is to ensure Network Rail reviews the safety of Sewage Works Lane UWC with Anglian Water to identify the measures that can be taken by one or both parties to address the safety risk. Taking account of the accident on 17 August 2010 and intelligence in this report about the extent of misuse at the crossing, Network Rail should, in conjunction with Anglian Water, make a thorough and realistic assessment of the risk at Sewage Works Lane UWC, making allowance for local factors at the crossing that influence the risk to users, with a view to identifying and implementing measures to reduce the risk to all users at the crossing. This assessment must include consideration of options to manage the risk of misuse arising from long waiting times for road users (paragraphs 195e and 195f).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
5 17/08/2010 14/2011 Collision tanker & train Sewage Works Lane, near Sudbury, Suffolk	The intent of Recommendation 5 is for Network Rail to review the costs and benefits of combining the data gathering, processing and assessment roles for level crossing risk assessment, taking account of the possible benefit of one person or a dedicated team having all the necessary knowledge to make an accurate assessment of the risk. Network Rail should review its level crossing management processes to establish the costs and benefits of making data gathering, processing and risk assessment of a level crossing the responsibility of a single person or a dedicated team with a comprehensive understanding of the operating environment at that crossing, and make changes to those processes as appropriate in the light of the outcome from the review (paragraphs 195e, 195f and 195g).	Awaiting response
6 17/08/2010 14/2011 Collision tanker & train Sewage Works Lane, near Sudbury, Suffolk	The intent of Recommendation 6 is for owners and operators of Class 156 units to cooperate on producing a review of the crashworthiness performance of the tables and determine whether the table design should be changed. This review may have relevance for other classes of rolling stock which share a similar design of table to the class 156. Owners of class 156 units should assess whether or not there is a case for improving the crashworthiness performance of the tables on Class 156 units and implement any measures found to be reasonably practicable. When undertaking this assessment, the owners should seek the co-operation of operators of Class 156 units (paragraph 196).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 17/08/2010 15/2011 Uncontrolled freight train runback between Shap and Tebay, Cumbria	The intention of this recommendation is for DB Schenker to reduce the number of shifts that cause fatigue. This recommendation may apply to other freight train operating companies. DB Schenker should, in consultation with its drivers: a. identify the shifts on which their drivers experience high levels of fatigue26, and give particular consideration to the impact on drivers working the first in a series of night shifts; b. improve the identified shifts, for example by changing the transition to them, their duration and the duties carried out on them, with shifts of the highest risk improved ahead of those of lower risk; c. assess the findings of drivers on the changed shifts to confirm that those shifts are improved; and d. share its findings with the Office of Rail Regulation	Awaiting response
2 17/08/2010 15/2011 Uncontrolled freight train runback between Shap and Tebay, Cumbria	The intention of this recommendation is for the rail industry to provide guidance on how to reduce the number of shifts that cause fatigue. The Office of Rail Regulation should take into account the train operator findings from Recommendation 1d and provide updated and enhanced guidance on shifts that cause high levels of fatigue, which should include: a. ways to improve those shifts, for example by changing the transition to them, the number of consecutive shifts, their duration and the duties carried out on them; b. advice on the limitations of mathematical models used to predict fatigue, and how they may be used as part of a fatigue risk management system.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 17/08/2010 15/2011 Uncontrolled freight train runback between Shap and Tebay, Cumbria	The intention of this recommendation is to provide the rail industry with information on the accuracy of mathematical models used to predict fatigue. The Office of Rail Regulation should arrange for a programme of work to analyse and compare existing mathematical models used to predict fatigue, including the Fatigue and Risk Index, and then provide information to the rail industry on the accuracy of those models.	Awaiting response
4 17/08/2010 15/2011 Uncontrolled freight train runback between Shap and Tebay, Cumbria	The intention of this recommendation is to improve rail industry information on fatigue-related accidents and incidents. RSSB should implement measures to improve the quality and quantity of available data relating to fatigue-related railway accidents and incidents. Options for consideration should include an enhancement of the Safety Management Information System to provide more accurate reporting of fatigue-related events.	Awaiting response
1 28/12/2010 16/2011 Derailment in Summit tunnel, near Todmorden, West Yorkshire	The intent of this recommendation is to reduce the amount of ice forming in Summit tunnel's ventilation shafts by improving the arrangements for managing the water seeping through the shaft's lining, eg by changing the drainage arrangements. These changes should also stop the water from falling directly onto the tracks below. Network Rail should review how the arrangements for managing water within Summit tunnel can be improved, decide what actions it is reasonably practicable to take, and implement them. The review should specifically consider what can be done to manage the water seeping through the ventilation shaft linings and reduce the amount of ice forming during periods of freezing temperatures (paragraphs 149a, 149b and 152a).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
2 28/12/2010 16/2011 Derailment in Summit tunnel, near Todmorden, West Yorkshire	The intent of this recommendation is to prevent the first train, after a cessation of traffic due to extreme weather, from passing at the line's maximum permitted speed through or over an unsafe structure. By identifying which structures on a route are at risk of becoming unsafe due to extreme weather, Network Rail can then check their state prior to reopening the route, eg by using the first service train to examine the route, a route proving train or staff on foot. Network Rail should identify the structures (as defined in NR/L3/CIV/006/1C) where passengers or staff might be put at risk when train services are resumed following an extended cessation of traffic during, or following, periods of extreme weather (as defined in NR/L2/OPS/021). Network Rail should then put in place procedures that result in checks that it is safe for trains to operate at the permitted line speed over or through these structures before resuming the train service (paragraphs 149e, 151c and 152c).	Awaiting response
3 28/12/2010 16/2011 Derailment in Summit tunnel, near Todmorden, West Yorkshire	The intent of this recommendation is to ensure that the hazards of ice formation on structures and the subsequent hazards during thaw conditions (eg ice falls onto the track) are included throughout Network Rail's weather management processes, so that they can be risk assessed and mitigated. For example, extreme cold weather events are not specifically included within NR/L3/TRK/1010 and EWAT conferences do not consider the hazards that might be present when operating trains once extreme cold weather conditions end and a thaw sets in. Network Rail should review and implement changes to its weather management processes to take into account the potential hazards created by extreme cold weather events and subsequent thaw conditions (paragraphs 150a and 151d).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
4 28/12/2010 16/2011 Derailment in Summit tunnel, near Todmorden, West Yorkshire	The intent of this recommendation is to give Network Rail staff the skills and knowledge to carry out additional inspections to look for ice on structures during periods of extreme cold weather, as Network Rail infrastructure maintenance's routine inspection regime may be too infrequent. Staff need to know what they need to do, where and when they should be doing it and the actions they should take once ice is found. This will support the implementation of NR/L3/TRK/1010 and the extreme weather plan, which require these additional inspections to take place. The staff undertaking these inspections should also know what potential hazards may be present and understand how to do the inspections while maintaining their own safety. Network Rail should provide training and information to its staff on carrying out the inspections of those structures which are at risk from ice in extreme cold weather. The training and information should include guidance on managing the hazards to staff while carrying out these inspections (paragraphs 149c and 149d).	Awaiting response
5 28/12/2010 16/2011 Derailment in Summit tunnel, near Todmorden, West Yorkshire	The intent of this recommendation is for safety actions and safety related information originating from Network Rail's buildings and civils – asset management function to be managed to an appropriate conclusion when it is passed to other parts of Network Rail's organisation. Network Rail should put in place processes for the management and distribution of safety actions and safety related information originating from Network Rail's buildings and civils – asset management function. This should include a process for systematically reviewing the resolution of necessary safety actions and a process for passing safety related information to other parts of Network Rail's organisation, including confirmation that it has been received, understood and acted upon (paragraphs 151a and 151b).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 05/02/2011 17/2011 Derailment of a passenger train near Dryclough Jcn, Halifax	The purpose of this recommendation is to improve control of minor civil engineering works schemes to ensure that changes to the design made during the implementation phase do not compromise the effectiveness of the works. Network Rail should review its arrangements for controlling the implementation of minor civil engineering works. This should include consideration of how deviations from the design are identified, assessed and accepted, and by whom, so that the original intent of the civil engineering work is not compromised. Any necessary improvements should be implemented.	Awaiting response
2 05/02/2011 17/2011 Derailment of a passenger train near Dryclough Jcn, Halifax	The purpose of this recommendation is to provide Network Rail staff with a means to identify structures whose examination has been missed or has not been loaded into CARRS and define how they should deal with the risks this may pose. The system should also assist in preventing examinations from being missed. Network Rail should implement a process that: identifies and highlights structures examinations that are overdue, or whose examination report has not been effectively transferred to Network Rail's computer system; defines what action is to be taken regarding these missing examination reports; and identifies and highlights structures whose examination due date is imminent but no examination has been scheduled.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 05/02/2011 17/2011 Derailment of a passenger train near Dryclough Jcn, Halifax	The purpose of this recommendation is to increase the likelihood of long running or significant defects in a structure being identified by the engineers responsible for its management. In conjunction with its examination contractor, Amey, Network Rail should review the effectiveness of the existing structures examination regime and implement any changes found necessary. The review should include, as a minimum: consideration of why examiners do not always report persistent defects; and a consideration of whether the examination system should be enhanced to require supervisors and/or engineers to periodically inspect structures.	Awaiting response
4 05/02/2011 17/2011 Derailment of a passenger train near Dryclough Jcn, Halifax	The purpose of this recommendation is to provide support to the MPCs to allow them to determine who is best placed to deal with problems reported via community relations concerning structures and earthworks and to define a system, including time limits, so that structures and earthworks staff can correctly prioritise their work. Network Rail should put in place adequate arrangements for dealing with external reports on possible problems with its structures and earthworks, and provide appropriate training and guidance to its community relations staff (including MPCs). The arrangements should include guidance on appropriate response times for both community relations and structures and earthworks staff when dealing with these reports, the basis upon which the reports should be prioritised and a system to ensure that defects identified are followed through.	Awaiting response
5 05/02/2011 17/2011 Derailment of a passenger train near Dryclough Jcn, Halifax	The purpose of this recommendation is to check whether there are any other earthworks missing from Network Rail LNE Route's earthworks database, and hence are not being examined. Network Rail LNE Route should check whether there are any earthworks missing from their examinations database. Any such earthworks found to be missing should be inserted into the database and arrangements made to examine them.	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 08/11/2010 18/2011 Station overrun at Stonegate, East Sussex	The purpose of this recommendation is to ensure that safety related maintenance activities are managed effectively. London & South Eastern Railway Ltd should carry out a management review to examine why the deficiencies in the processes for replenishment of sand had not been identified and rectified prior to the overrun at Stonegate. The lessons learnt from this review should be implemented by making suitable changes to management systems to provide confidence that such deficiencies will be identified in the future for all safety related maintenance activities (paragraph 222d).	Awaiting response
2 08/11/2010 18/2011 Station overrun at Stonegate, East Sussex	The purpose of this recommendation is to ensure that missed work activities do not affect the safe operation of trains. London & South Eastern Railway Ltd should introduce management systems to prevent trains that require safety related maintenance work from re-entering service until that work has been completed (paragraph 224b).	Awaiting response
3 08/11/2010 18/2011 Station overrun at Stonegate, East Sussex	The purpose of this recommendation is to ensure that trains that rely on sand for braking in low adhesion conditions always have that sand available. London & South Eastern Railway Ltd should review the arrangements and processes for train sand replenishment, so that they are compatible with known worst case rates of sand usage and take account of any inherent delays in actioning replenishment, and implement any revised arrangements arising from this review (paragraph 224a).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 28/01/2011 19/2011 Passenger accident at Brentwood station	The purpose of recommendation 1 is for Network Rail, in partnership with relevant train operating companies, to make improvements to the assessment of DOO train dispatch arrangements at unstaffed platforms. The assessment should consider the equipment provided and the way in which it is used. The involvement of both infrastructure owner and train operator is necessary in order to obtain the maximum benefit from such an exercise. Network Rail should arrange, execute and accurately record, in partnership with relevant train operating companies, periodic assessments of the DOO equipment provided at unstaffed platforms with particular reference to the quality of the interface between the equipment provided and the way in which it is used (paragraphs 135c, 136d, and 137b).	Awaiting response
2 28/01/2011 19/2011 Passenger accident at Brentwood station	The purpose of recommendation 2 is to reduce the likelihood of a train departing from a platform with a passenger in an unsafe position relative to the train. The Rail Safety and Standards Board should, in consultation with train operators, consider the inclusion of guidance in Rail Industry Standard RIS-3703-TOM that those responsible for train dispatch (including the drivers of DOO trains) should, so far as is reasonably practicable, observe the closing of the train's doors and be alert for any dangerous occurrence while this is taking place (paragraph 136a).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
3 28/01/2011 19/2011 Passenger accident at Brentwood station	The purpose of recommendation 3 is for National Express East Anglia to make improvements to its train driver training and assessment processes to promote effective management of the risk associated with DOO train working, and in particular, the dispatch of DOO trains from unstaffed platforms. National Express East Anglia should complete a systematic review and updating of its train driving task analysis relating to the dispatch of Driver Only Operated (DOO) trains from unstaffed platforms to assure that hazards are identified and the risk properly addressed. The results of this review should be incorporated into the train driver training programme, train driver competence management system and ongoing safety briefing processes to facilitate the changes necessary to adequately address the risk from DOO train dispatch, particularly from unstaffed platforms (paragraphs 136b and 136d, 137a, 137c and 137d).	Awaiting response
4 28/01/2011 19/2011 Passenger accident at Brentwood station	The purpose of recommendation 4 is for National Express East Anglia to take steps to improve the availability of data from the on-train CCTV systems fitted to its trains. National Express East Anglia should take the necessary steps to ensure that the on-train CCTV systems (including forward and rear facing CCTV equipment) fitted to its trains achieve a high level of availability (paragraph 138a).	Awaiting response
5 28/01/2011 19/2011 Passenger accident at Brentwood station	The purpose of recommendation 5 is for National Express East Anglia to make improvements to its monitoring processes to ensure periodic reviews, such as risk assessment reviews, are undertaken at the specified frequencies. National Express East Anglia should review and update as necessary its monitoring systems so that where periodic safety reviews are required they are undertaken at the necessary frequencies (paragraph 138c).	Awaiting response

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of Current Status
1 23/03/2011 20/2011 Train passed over Lydney level crossing with crossing barriers raised	This recommendation is intended to provide crossing and signal box instructions and training material which reflect equipment, routine operating practices and procedures required during degraded working. Network Rail should modify procedures so that: a. routine reviews and updating of signal and crossing box instructions include verification, by engineering staff, that the instructions are compatible with the equipment provided; b. there is clear guidance on the information to be contained in all box instructions; c. training material is reviewed, and updated as necessary, concurrently with the associated box instructions; and d. reviews of box instructions and associated training material should be subject to checking, at least on a sample basis. (paragraphs 145d, 145e, 146, 147a, 149a and 150.)	Awaiting response
2 23/03/2011 20/2011 Train passed over Lydney level crossing with crossing barriers raised	The intent of this recommendation is that, when accepting documentary evidence that an individual (such as a crossing keeper) has dealt with particular situations in a competent manner, a sample of these situations should be reviewed to ensure that the individual actually acted appropriately. Network Rail should review and, if necessary, amend and/or augment existing processes so that, when documentary evidence is used to verify safety-critical competencies of operations staff, appropriate evidence (such as voice recordings) is examined for at least a proportion of the events covered by these documents (paragraphs 145d, 147a, and 147c).	Awaiting response
3 23/03/2011 20/2011 Train passed over Lydney level crossing with crossing barriers raised	The intent of this recommendation is that, for both normal and degraded operating modes, signals protecting new and upgraded MCB crossings should return to danger if the crossing barriers are raised significantly above the fully lowered position. Network Rail should modify its standards and design practice so that signals protecting new MCB level crossings, and signals protecting MCB crossings upgraded in future, always show a stop aspect when the barriers are raised significantly above the fully lowered position (paragraph 145e).	Awaiting response

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