1. Purpose

1.1 The purpose of this paper is to present the board with the headlines from the 2013/14 Annual Safety Performance Report (ASPR), which was issued on 1 July 2014.

1.2 The rail industry learns from operational experience by investigating specific events and through the regular monitoring of trends. ASPR contributes to this process by providing decision-makers with analyses of safety performance on the mainline railway. As issues have arisen throughout the year these have been taken forward for action through the System Safety Risk Group (SSRG) and its sub-groups. RSSB is the main source of mainline rail safety statistics in Great Britain, and its figures are reproduced in the Office of Rail Regulation’s (ORR) publication National Rail Trends and the Department for Transport’s (DfT) Transport Statistics Great Britain.

1.3 This ASPR presents the railway’s safety trends across a number of topic areas for the financial year 2013/14, covering the period 1 April 2013 to 31 March 2014. RSSB reports on a financial year basis for consistency with Control Period 4 (CP4), its associated High Level Output Specification (HLOS) and the SSP. This is the last ASPR to report on safety performance relating to CP4; the next ASPR will report on safety performance during the first year of CP5.

1.4 The Data and Risk Strategy Group (DRSG), which is a sub-group of SSRG, has been set up to evolve the systems and information we produce over CP5. As part of the resulting programme of work, RSSB is reviewing the industry’s needs for safety and risk information. Therefore this will be the last time that this precise scope of information is presented in this particular format.

1.5 The ASPR Executive Summary is attached as Annex A. The full ASPR can be downloaded from www.rssb.co.uk.

2. Recommendation

2.1 The Board is asked to:

- NOTE the content of the attached 2013/14 ASPR Executive Summary.
Executive summary

Introduction
This report reviews the rail industry’s safety performance over the financial year 2013/14. RSSB reports on a financial year basis for consistency with Control Period 4 (CP4), its associated High Level Output Specification (HLOS), and the Railway Strategic Safety Plan (SSP), all of which covered the period April 2009 to March 2014.

The Railway Safety Directive (2004/49/EC) states the requirement for Member States to ensure that safety is generally maintained and, where reasonably practicable, continuously improved. The trajectories of the SSP are in keeping with this aim as are the passenger and workforce safety targets laid out by the Department for Transport (DfT) in the HLOS. At the end of CP4, safety performance satisfies all of the SSP trajectories and both the HLOS safety targets. In addition, performance satisfies each of the National Reference Value (NRV) limits set for the UK by the European Railway Agency, and our railways compare very favourably with Europe as a whole. Rail continues to be one of the safest forms of GB land transport. Nevertheless, the industry is far from complacent about current levels of safety, and continues to seek opportunities to reduce risk, particularly in key areas such as signals passed at danger (SPADs) and workforce safety.

2013/14 Headlines

a. In 2013/14, there were 1.59 billion passenger journeys (6% increase on 2012/13) and 60.1 billion passenger kilometres (3% increase); the length of the average journey has decreased from 38.9 km to 37.8 km. There were also 48.5 million freight train kilometres (1% increase).

b. There were no passenger or workforce fatalities in train accidents in 2013/14. This is the seventh year in succession with no such fatalities. At 0.2 events per year, the ten-year moving average for these train accidents is at its lowest ever level.

c. Four passengers died in separate incidents, all at stations. When non-fatal injuries are also taken into account, the total level of passenger harm was 43.1 FWI; this is 9% lower than the 47.4 FWI (four fatalities) recorded for 2012/13; the decrease is due mainly to a fall in the number of major injuries. When normalised by passenger journeys, the rate of harm shows a 14% decrease compared with 2012/13. When CP4 is compared with CP3, there has been an observed improvement in normalised safety performance of 17%.

d. There were three workforce fatalities; all were infrastructure workers. Two of the fatalities occurred in the same event, which was a road traffic accident while on duty. Including non-fatal injuries, the total level of workforce harm was 25.2 FWI, which is an increase of 10% compared with 22.8 FWI (two fatalities) occurring in 2012/13. The rate of harm normalised by workforce hours increased by 8%. When CP4 is compared with CP3, there has been an observed improvement in normalised safety performance of 20%.

e. There were 32 potentially higher-risk train accidents. This is a decrease of three on the previous year’s total of 35. For the past four years, the number of higher risk train accidents has remained lower than levels seen prior to this period. When CP4 is compared with CP3, there has been an observed improvement of 39% in the normalised number of these events.

f. There were no passenger train derailments. This is the first year with no such derailments since recording began more than 20 years ago. There were 11 non-passenger train derailments. There were no reported injuries resulting from derailment.
g. The Precursor Indicator Model (PIM) provides a measure of trends in the underlying risk from higher risk train accidents. At March 2014, the overall indicator stood at 7.52 FWI, compared with 7.90 FWI at the end of 2012/13. The reduction was due mainly to reductions in the number of events at level crossings. The passenger proportion of the PIM remained essentially level; at March 2014, it stood at 3.32 FWI, compared with 3.28 FWI at the end of the previous year.

h. At 293, the number of SPADs occurring during 2013/14 was a 17% increase on the 250 occurring during 2012/13. At the end of 2013/14, the estimated level of risk from SPADs was 73% of the September 2006 baseline, compared with 60% at the end of 2012/13.

i. At 308, the number of fatalities to members of the public was the highest recorded. Eight of the fatalities were members of the public at level crossings: two were occupants of the same road vehicle, who died when their car was involved in a collision with a train and six (including one cyclist) were pedestrian users of footpath crossings. When CP4 is compared with CP3, there has been an observed reduction of 33% in the normalised level of harm at level crossings.

j. The remaining three hundred fatalities to the public resulted from trespass or suicide. This is an increase of 22 on the 278 trespass and suicide fatalities occurring in 2012/13, and the highest figure recorded. When CP4 is compared with CP3, there has been no observed reduction in the normalised number of trespass and suicide events as a whole.

k. In total, and excluding suicides, there were 36 fatalities, 440 major injuries, 11,382 minor injuries and 1,238 cases of shock/trauma. The total level of harm was 102.1 fatalities and weighted injuries (FWI), compared with 116.9 FWI recorded in 2012/13. The main cause of the decrease was a fall in the number of accidental fatalities to members of the public.

Risk from train accidents
The past seven years have seen no fatalities to passengers or workforce from train accidents. The last train accident with an on-board fatality was the derailment at Grayrigg in February 2007, which resulted in the death of one passenger. Over time, there has been a falling trend in the rate of train accidents involving train occupant fatalities. The current level, based on a ten-year moving average, is the lowest recorded, at 0.2 per year.

The types of train accident with the greatest potential to cause harm are termed ‘potentially higher-risk train accidents’. These account for around 6% of the total number of events that are classed under RIDDOR as train accidents, but contribute around 93% of the train accident risk. In 2013/14, there were 32 higher risk train accidents, a decrease of three on the previous year. One resulted in a major injury to a passenger, when a collision occurred between two passenger trains during permissive working at a station.

As serious train accidents are rare, RSSB also analyses trends in accident precursors, using the PIM. The PIM indicates that the overall risk from higher risk train accidents has reduced significantly over the past decade. The most rapid improvement occurred in the period up to the end of 2005/06, and was mostly due to the large reduction in SPAD risk brought about by the implementation of the Train Protection and Warning System (TPWS). At the end of 2013/14, the PIM stood at 7.52 FWI, compared with 7.90 FWI at the end of 2012/13. The main reasons behind the overall reduction was a decrease in the number of events at level crossings.

1 The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.
The portion of the PIM related to the risk to passengers stayed essentially level; at the end of 2013/14 it stood at 3.32 FWI compared with 3.28 FWI at the end of 2012/13.

SPAD risk currently stands at 73% of the September 2006 baseline level. Although the general long-term trend has been decreasing, more recent performance has shown an upwards trend.

**Risk to passengers**

Four fatalities occurred during 2013/14, all at the platform-train interface. Based on RSSB's Safety Risk Model (SRM), the platform edge and the interface between train and platform form the greatest source of passenger fatality risk. Most of the fatality risk does not arise from boarding or alighting, but is due to people falling from the platform, or coming into contact with trains while standing too close to the platform edge.

The number of crimes against the person (passengers and public) recorded by British Transport Police for 2013/14 was 3,536, which is higher than the 3,452 recorded for the previous year. When normalised by passenger journeys, the rate of incidents fell by 3%, reaching its lowest recorded level. The likelihood of being the victim of crime during the average journey is around one in 450,000.

The total number of major injuries to passengers in 2013/14 was 270, compared with 312 recorded for 2012/13, which is a fall of 13%. The reduction is due mainly to a decrease in the numbers of major injuries caused by slips, trips and falls in stations and by accidents at the platform-train interface.

**Risk to the workforce**

Three members of the workforce, all infrastructure workers, were killed in 2013/14. Two men died in the same accident, which was a road traffic collision while on duty. The third worker was acting as lookout for a small group working south of a station, when he was struck by a passenger train approaching the station. Most workforce fatalities are to infrastructure workers. Since 2004/05, there have been 25 workforce fatalities, 20 of whom were infrastructure workers. Infrastructure workers also dominate the major injury figure; since 2004/05, around 60% of major injuries have occurred to this group.

The total number of workforce major injuries was 126, which is 11% higher than the 114 recorded for 2012/13. Since 2006/07, workforce major injuries have been at a generally lower level than before that date.

In 2013/14, the level of harm from workforce assault was 1.6 FWI, remaining at its lowest recorded level.

**Risk to members of the public**

Where available, coroners' verdicts are used as the basis for categorising relevant public fatalities as suicide or accidental trespass. Where a coroner's verdict is returned as open or narrative, or where it is not yet returned, the industry applies the Ovenstone criteria to determine the most probable circumstances, ie either trespass or suicide. Throughout 2013/14, a greater amount of information about fatalities related to trespass and suicide was made available by BTP to the industry, through the enhanced co-operation taking place under the National Suicide Prevent Working Group. A specific team was established within BTP, and has worked with Network Rail and RSSB to look at classification of fatalities. As part of this partnership, BTP have been able to share more information on railway fatalities as far back as 2009/10. This has enabled the industry to review a number of cases where the Coroners' verdict is not yet returned, or was recorded as open or narrative, and re-
assess them against the Ovenstone criteria. An outcome of this increased data sharing is that while trespass and suicide data should be more accurate over the past five years, the analysis of the separate trends in suicide and trespass across the decade as a whole cannot be done on a consistent basis.

The number of accidental public fatalities due to trespass was 21 in 2013/14, compared with 32 in 2012/13. Over the past five years, the average number of trespass fatalities has been 32. The number of public fatalities due to suicide or suspected suicide was 279, compared with 247 in 2012/13. Over the past five years, the average number of suicide and suspected suicide fatalities has been 244.

**Risk at the road-rail interface**

The total level of harm at level crossings was 8.7 FWI, of which eight were fatalities. Of these, two were occupants of the same road vehicle, who died when their car was involved in a collision with a train, and the remaining six were public pedestrian users (including one cyclist). There were no passenger or workforce fatalities at level crossings. Since 2004/05, there has been an average of 12 collisions per year between trains and road vehicles at level crossings. There were ten such incidents during 2013/14, and there is some evidence that the underlying rate of train collisions with road vehicles at level crossings has reduced over the past ten years.

Away from level crossings, the other sources of road-rail interface risk are vehicle incursions and bridge strikes. At 48, the number of vehicle incursions onto the railway was a decrease of nine on the previous year, and below the ten-year average of 66. One incursion involved a collision with a train; there were no reported injuries to occupants of the train or car. At 35, the number of serious or potentially serious bridge strikes was an increase of three compared with 2012/13, but below the ten-year average of 41.

**Summary**

In comparison with the previous year, 2013/14 has seen some areas of improvement, and some areas were levels of harm have increased. Over the duration of CP4 as a whole, the industry has achieved notably lower rates of train accidents and their precursors, and of injuries to passengers, public and workforce, with the exception of fatalities due to trespass and suicide. When normalised by the increase in system operation, as reflected in train kms, there has been no change in this area.

Against the background of the SSP trajectories and HLOS targets set for CP4, as well as the longer-term context of the European NRV limits, GB performance has met the European requirement to ensure that safety is generally maintained and, where reasonably practicable, continuously improved.

**Comparison of CP4 with CP3, across range of key areas**

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<th>Area</th>
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<td>Passenger (FWI normalised by pax jnys)</td>
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<tr>
<td>Workforce (FWI normalised by hours worked)</td>
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<tr>
<td>Level crossings (FWI normalised by train kms)</td>
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<tr>
<td>PHRTAs (number normalised by train kms)</td>
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<tr>
<td>Trespass and suicide (fatalities normalised by train kms)</td>
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