



## *SPAD numbers at lowest ever level*

### Introduction

This four-page summary is the November 2009 report for category A signal passed at danger (SPAD) performance and Train Protection and Warning System (TPWS) activity. For further information please refer to [www.Opsweb.co.uk](http://www.Opsweb.co.uk). All RSSB publications are freely downloadable from [www.rssb.co.uk](http://www.rssb.co.uk).

### Key Facts: November 2009

<b>Overall:</b>	25 category A SPADs, which is three fewer than November 2008. 268 SPADs in the 12 months to the end of November, against 324 to the same point in 2008.
<b>Risk ranking:</b>	Seven SPADs were risk ranked 16 or above (three of which were risk ranked 20+). This compares with nine during November 2008 (two of which were risk ranked 20+).
<b>TPWS:</b>	One intervention (TPWS applied the brakes before, or in the absence of, driver action). Twelve TPWS activations (the driver initiated braking before the system). Three where the TPWS involvement is currently unknown.
<b>Multi-SPADs:</b>	Four SPADs by multi-SPAD drivers (two or more since qualifying as a driver, inc. this event), two of which register within the current five-year period. Four SPADs at multi-SPAD signals (two or more within the current five-year period).

### All category A SPADs

There were 25 category A SPADs during November: 10 more than last month, but three fewer than in November 2008. This is 24% better than the three-year average for November of 33 (see Chart 1). Whereas the total of 25 SPADs in November 2009 was an increase on October (the lowest October on record, with 15) it was the lowest number ever recorded during the month of November.

The annual monthly moving total of 268 is the lowest such total recorded.

There were seven SPADs risk ranked 16+ during November, three of which were 20+.

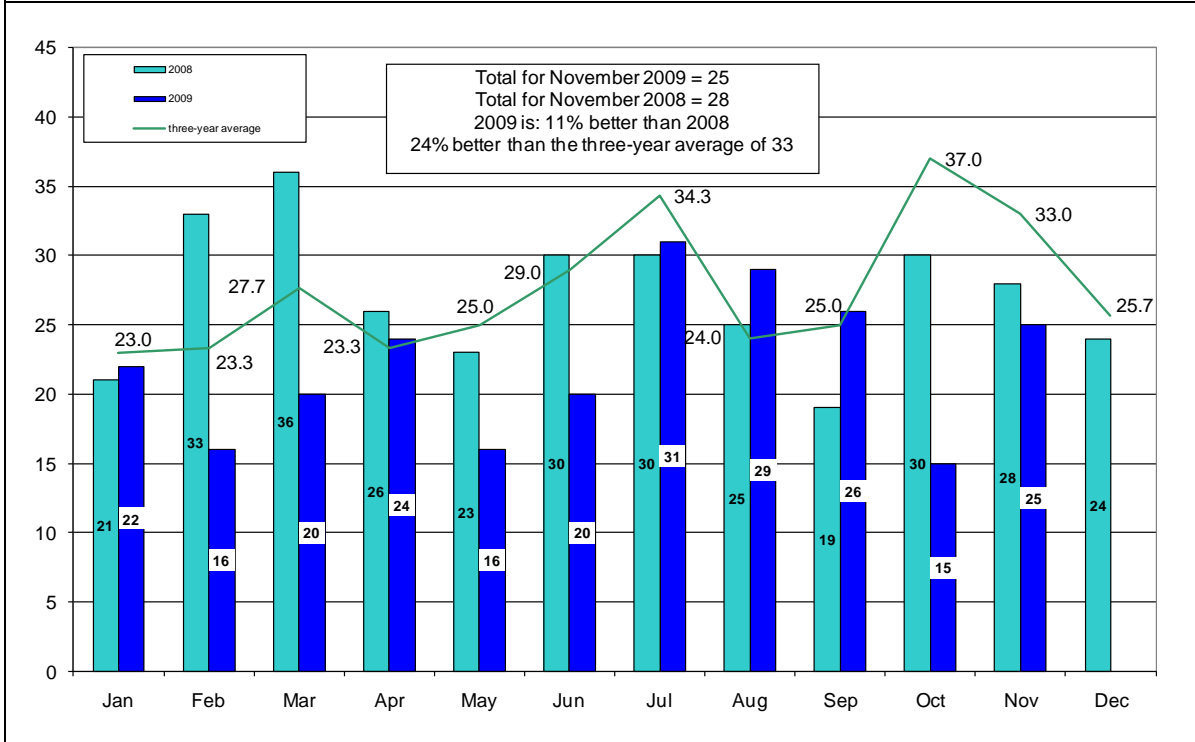
### Adhesion related SPADs

There were eight SPADs during October and November where poor rail-head adhesion was initially cited as a contributory factor (these incidents are subject to investigation, so this figure may change); this compares to seven in 2008.

### TPWS 'reset and continue' SPADs

There were no 'reset & continue' incidents during November. The most recent incident was on 21 October 2008.

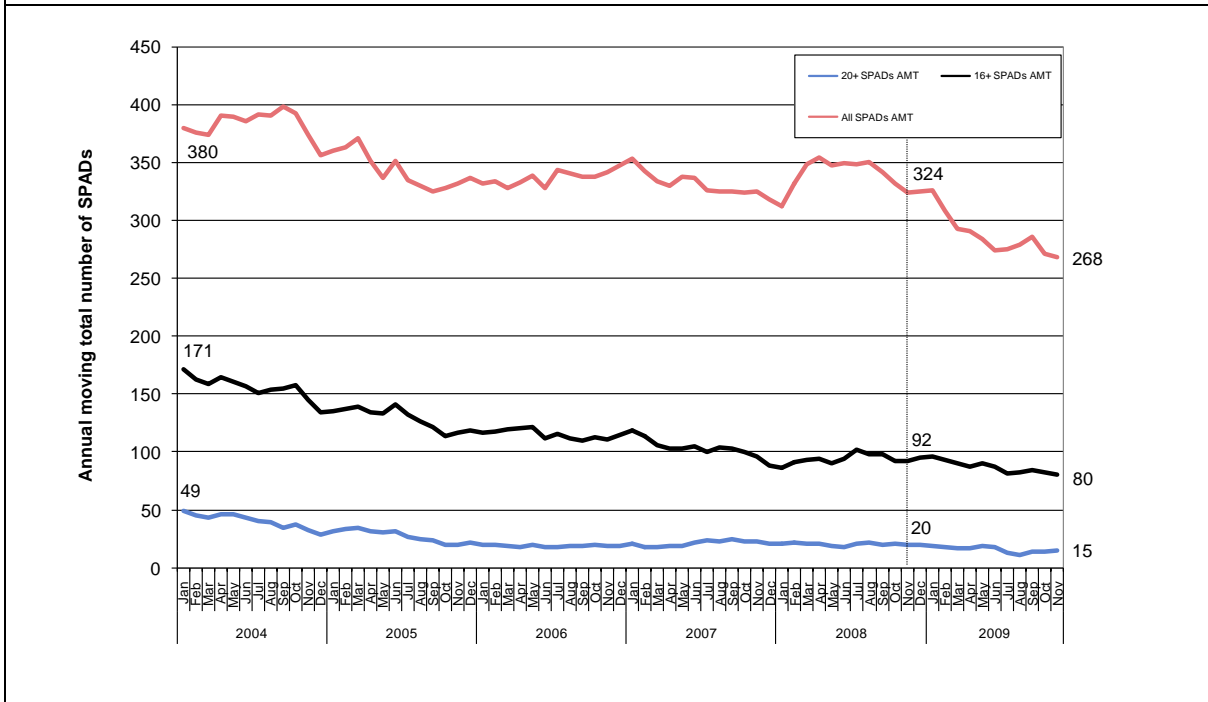
**Chart 1 All category A SPADs – monthly variation**



**Overall comparison of annual moving totals**

Chart 2 shows that the annual moving total for All SPADs, along with that for those risk ranked 16+ and 20+.

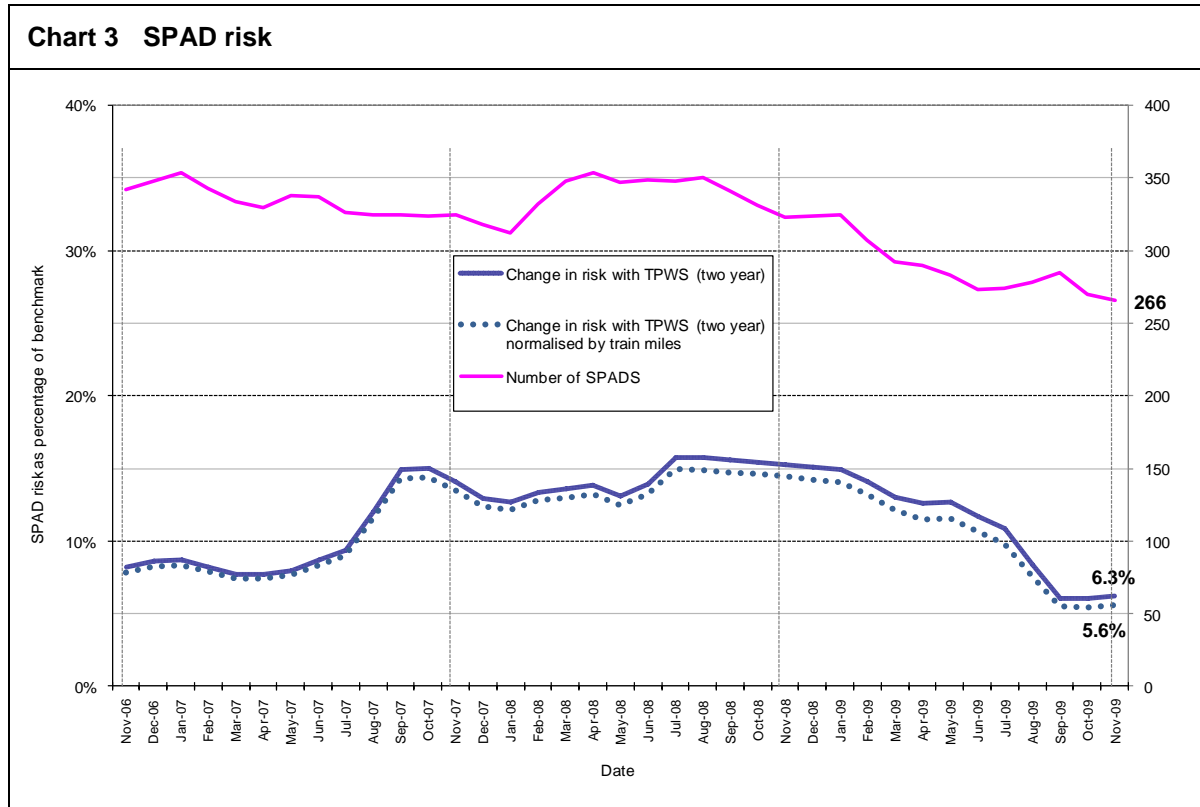
**Chart 2 Annual moving totals – All SPADs, 16+ and 20+**



## SPAD risk

Chart 3 shows the annual monthly moving total (AMMT) number of SPADs<sup>1</sup> over the last three years, along with the risk from SPADs over the same period. It may be seen that the AMMT has been falling since August 2008.

The risk from SPADs has also decreased over the same period and is now 6.3% of the March 2001 benchmark level. The dotted blue line conveys the same risk data, but normalised by train miles. As train miles have increased since the benchmark date, the normalised risk level shows a correspondingly lower figure of 5.6%.



## SPADs risk ranked 20+

There were three SPADs with a risk ranking of 20+ during November. Details are as follows:

- SPAD risk ranking 23** On 2 November, a passenger train passed T9 signal at danger on the down London Bridge fast line at Norwood Jn. (Sussex Route) by 818 yards. The main reasons for the high risk ranking of this SPAD are that: (a) the probability of a collision was high because the benefit of TPWS was eliminated, owing to low rail head adhesion, giving rise to a long overrun past the signal and (b) the consequences, had a collision occurred, could have been high as the train was heavily loaded and the permissible speed is 70mph.
- SPAD risk ranking 23** On 18 November an empty coaching stock train passed CP26 signal at danger on the down Fife line at Cupar (Scotland Route) by 7040 yards. The main reasons for the high risk ranking of this SPAD are that: (a) this is a plain line signal that is not required to be fitted with TPWS, (b) the long overrun past the signal and (c) the consequences, had a collision occurred, could have been relatively high due to the possibility of colliding with a passenger train where the permissible speed is 75mph

<sup>1</sup> It should be noted that Chart 3 includes SPADs which come within the definition of 'On or affecting a running line'. This is a slightly different set of SPADs to those on NRMI reported on elsewhere in the report. A definition of OORL may be found in the full quarterly SPAD/TPWS reports.

- SPAD risk ranking 20** On 26 November, a freight train passed YF222 signal at danger on the Up Airdrie line at Glasgow High Street (Scotland Route) by 352 yards. The main reasons for the high risk ranking of this SPAD are that: (a) this is a plain line signal that is not required to be fitted with TPWS, (b) the relatively long overrun past the signal and (c) the consequences, had a collision occurred, could have been relatively high due to the possibility of a collision involving a passenger train.

### SPAD performance by Network Rail route

Chart 4 shows the average annual moving total number of SPADs for each route, for all SPADs and for 16+ SPADs, and makes a comparison with the moving total a year ago.

	Route	Annual moving total November 2008	Annual moving total November 2009	Difference in annual total	%age change in annual rate	Annual change significant?
All SPADs	Anglia	34	41	7	21%	-
	Kent	29	22	-7	-24%	-
	London North Eastern	50	53	3	6%	-
	London North Western	73	60	-13	-18%	-
	Midland and Continental	15	5	-10	-67%	Yes
	Scotland	24	14	-10	-42%	-
	Sussex	11	20	9	82%	-
	Wessex	34	18	-16	-47%	Yes
	Western	54	35	-19	-35%	Yes
16+ SPADs	Anglia	10	15	5	50%	-
	Kent	10	5	-5	-50%	-
	London North Eastern	8	23	15	188%	Yes
	London North Western	21	14	-7	-33%	-
	Midland and Continental	4	1	-3	-75%	-
	Scotland	10	4	-6	-60%	-
	Sussex	2	6	4	200%	-
	Wessex	11	3	-8	-73%	Yes
	Western	16	9	-7	-44%	-

#### Further information:

Please refer to [www.opsweb.co.uk](http://www.opsweb.co.uk) for further data. The site contains a spreadsheet containing every SPAD event since 1998, and is updated monthly.

If you would like to discuss any of the material contained in the SPAD report, please contact: Roger Badger, Senior Safety Intelligence Analyst, [roger.badger@rssb.co.uk](mailto:roger.badger@rssb.co.uk)