

Health and Safety Executive Board		HSE/11/49	
Meeting Date:	17 August 2011	FOI Status:	Open
Type of Paper:	Information	Exemptions:	
TRIM Reference:	2011/416297		

## Workplace fatal injury statistics 2010/11

### Purpose of the paper

1. To present the fatal injury statistics for 2010/11 and provide associated context and analysis.

### Background

2. Annual fatal injury statistics, both numbers and rates of injury, are published as National Statistics in June each year. The statistics are marked as provisional on first release and then finalised the following June. Provisional figures for 2010/11 were published on 28 June 2011.
3. These statistics relate to injuries that are covered by the provisions of RIDDOR (Reporting of Injuries Diseases and Dangerous Occurrences Regulations, 1995). They therefore cover incidents that are reportable to HSE, the relevant Local Authority or the Office of Rail Regulation. For the vast majority of such reportable accidents the Health and Safety at Work etc Act, 1974 is the main legislation applicable. The statistics exclude fatalities on the public highway, workers travelling by air or sea and fatalities to members of the armed forces.
4. In considering these statistics, two themes are prominent. First, the underlying long-term trend. When analysing trends in fatality data, it's important to take into account the impact of chance variation. Therefore to minimise annual fluctuations just due to chance, the data is best analysed over a number of years, with the rate of fatal injury showing a downward trend since 1992/93.
5. Second, industry classification. HSE classifies and presents these statistics by main industry, using the internationally-agreed Standard Industrial Classification system (SIC). For data relating to 2010/11 onwards a new system is in use, changing from 'SIC2003' to 'SIC2007'. SIC is periodically updated to reflect changes in industry composition; additionally, European regulation requires SIC 2007 be adopted for all UK government statistics from 2011.
6. These fatal injury statistics are the first HSE data series to be released on this new SIC 2007 basis. To allow comparison, data from previous years has been re-coded, so that data across all years is presented in the new format. The main effects of these changes on individual SIC sectors are highlighted.

## Argument

### Headline statistics for 2010/11

7. The provisional figure for the number of workers fatally injured in 2010/11 is **171** (120 employees and 51 self-employed). This figure corresponds to a rate of **0.6** per 100,000 workers. In addition there were 318 deaths to members of the public, 250 of which were incidents on the railways including suicide and trespass.
8. The finalised figure for 2009/10 is **147** (104 employees and 43 self-employed) which equates to a rate of **0.5** deaths per 100,000 workers. This finalised count compares with a provisional figure of 152. Downward revisions are unusual since the finalised count generally results in a net increase (due to late reporting and the time taken to conclude some fatal investigations). In this instance, further investigation of the cases determined that four were no longer reportable incidents (and hence, out of scope for publication). The one additional decrease was due to the employment status of the deceased person changing from worker to member of the public.
9. The table below shows numbers and rates of worker fatality by sector, for 2010/11, 2009/10 and the annual average over the five year period from 2005/06 to 2009/10.

Main industry (SIC 2007)	Worker fatalities			Rate of worker fatality per 100,000 workers		
	20010/11p	2009/10	5 year average 05/06-09/10	20010/11p	2009/10	5 year average 05/06-09/10
Agriculture	34	39	35	8.0	10.4	9.6
Extractive; gas & electricity supply	3	6	7	#	#	#
Manufacturing	27	24	31	1.1	0.9	1.1
Water supply; waste & recycling	10	4	10	6.5	2.5	6.1
Construction	50	41	61	2.4	1.9	2.8
Services	47	33	61	0.2	0.1	0.2
All industries	171	147	205	0.6	0.5	0.7

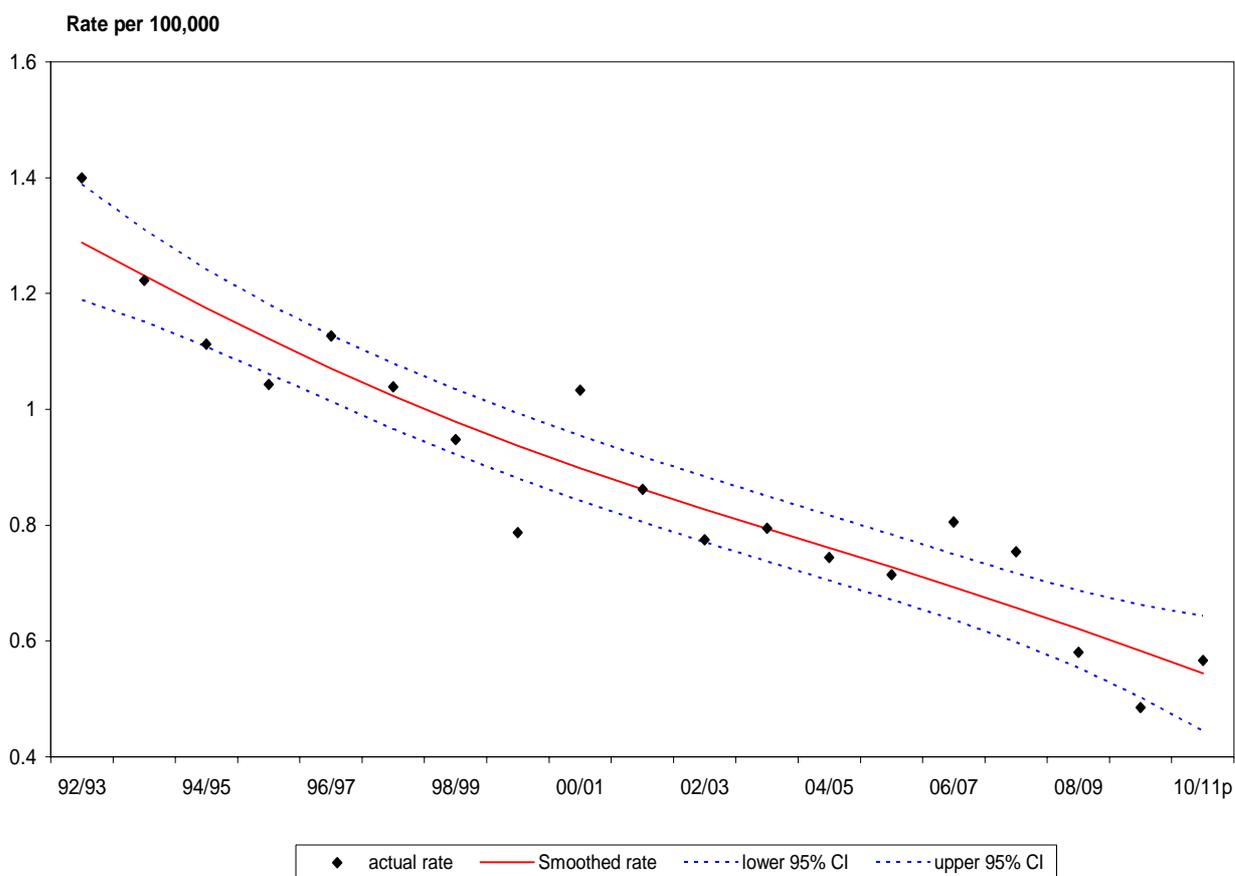
P – provisional  
# Rate not available

### Trends in the statistics

10. The annual count of fatal accidents at work is not an estimate and therefore is not subject to sampling variation. However the count is subject to substantial chance variation as a result of fatalities being relatively rare events. The effect of this chance variation can be estimated

and will be proportionately higher for smaller counts, for example figures by industry. We can estimate that this year's count of 171 could have been anywhere between 145 and 197 based on chance alone.

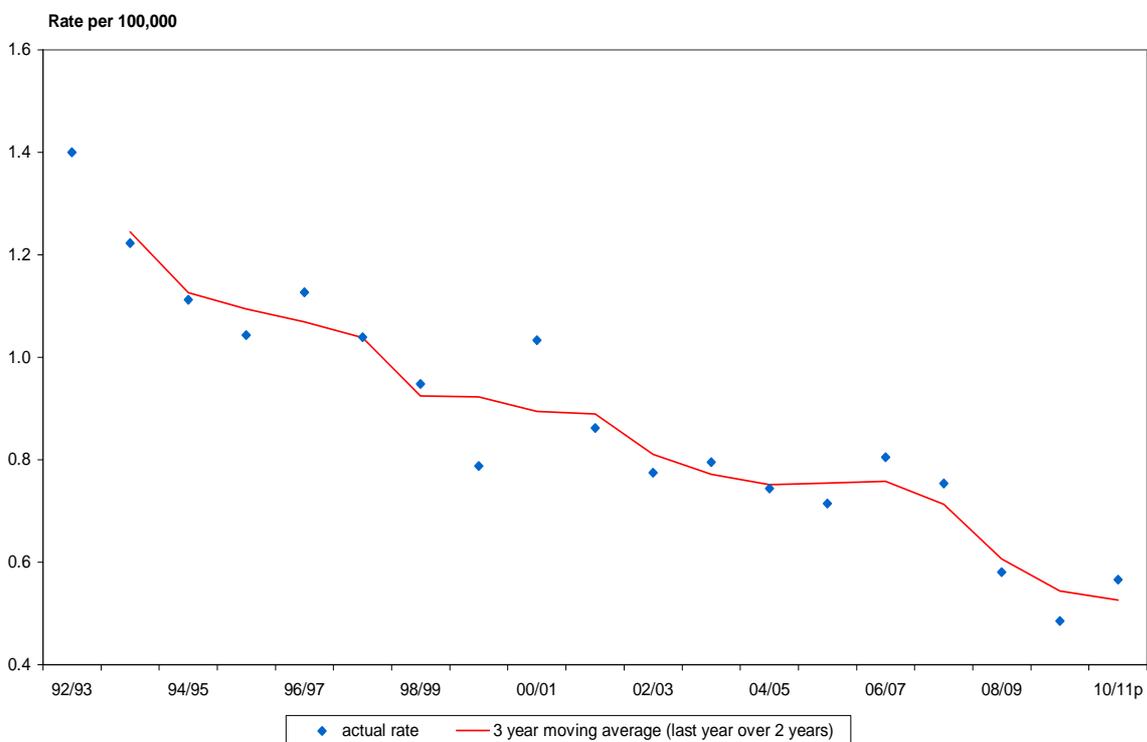
11. The theoretical argument about chance variation is borne out at a practical level when the causes of individual fatalities are examined. It is often found that an unfortunate set of chance events have occurred alongside shortcomings in safety management to cause the accident.
12. To minimise the effects of annual variation, it is possible to look at the trend over a number of years, with the chart below showing the effects of smoothing the fatal injury rate over the last nineteen years.



13. Over the nineteen-year time period there has been a downward trend in the rate of fatal injury. Although the 2009/10 rate represented the lowest rate on record, the 2010/11 rate remains fully consistent with a continuing downward trend.
14. Changes in the fatal injury rate will mainly be driven by factors that act gradually over a number of years. However, if a major development occurred which caused a step change in the fatalities rate, this would not become apparent in the smoothed line for several years. For this reason a second graphical representation is shown below with the trend indicated by a three year rolling average (the current year shows the average over the last two years). Using this approach the trend line is not smoothed to the same extent as in the previous chart. Also, because this averaging

procedure simply focuses on the moving three-year time frame, it is more sensitive to the emergence of a new influence on the figures. Hence this is regarded as the best graphical representation to provide an early indication of a change in the trend.

15. This chart suggests a fairly flat trend in the fatality rate between 2002/03 and 2007/08 followed by a sharp fall in 2008/09. It is possible that the economic climate impacted on the drop in fatality rates: research into non-fatal injuries has shown that in times of recession, injury rates tend to fall. This is reversed in recovery when rates tend to increase, largely due to the recruitment of inexperienced workers. However, it is unfortunately impossible to quantify how much of an impact this may have had on the figures.



### Impact of the change in industrial classification

16. The change in industry classification has not affected the overall numbers of workers killed: it is just the industrial allocation that has changed. Some industries will be affected more than others with apparent increases in one industry offset by apparent decreases in others. The Table below summarises the effect of these definition changes for the main sectors.

#### Summary of the impact of changes in industry classification for main industry sectors

Agriculture	Employment under SIC 2007 (Agriculture, Forestry and Fishing) is significantly lower than under the equivalent section of SIC 2003, mainly because 'landscape gardeners' have moved to 'services' under SIC 2007. Given this employment shift of relatively lower-risk workers, the change has had the effect of increasing the rate of fatal injury for agriculture workers under the SIC 2007 definition.
-------------	---

	On the basis of SIC 2003, the average yearly <b>fatality rate for agriculture workers for the period 05/06 to 09/10 would be 7.9 per 100,000; under SIC 2007 for the same period there are four fewer fatalities but a rate of 9.6.</b>
Construction	'Development and sale of real estate' has moved to 'construction' from 'services'. The numbers employed are relatively small compared to both sectors, and no fatalities have been recorded in the past six years. The effect of the change is a <b>slight decrease in the average construction worker fatality rate for the period 05/06 to 09/10, from 3.0 per 100,000 under SIC 2003 to 2.8 under SIC 2007</b>
Manufacturing	Under SIC 2007, recycling activities have moved from "manufacturing" to be brigaded with other related activities (Water supply, sewerage, waste management and remediation activities). As a consequence, under SIC 2007, there are 16 fewer fatalities classified as manufacturing for the period 05/06 to 09/10. The effect of the change is a <b>slight decrease in the average worker fatality rate for that period, from 1.2 per 100,000 under SIC 2003 to 1.1 under SIC 2007.</b>
Services	The services sector covers a wide range of industries, although the main impact on these fatality statistics relates to the re-allocation of 'waste' from services into a new sector. The effect of the change is to reduce the services fatality figure by 31 for the period 05/06 to 09/10 when comparing under SIC 2003 and SIC 2007, which combines with an overall increase in services employment due to a number of other changes. The net effect on <b>fatality rates for that period is to reduce it, from 0.27 to 0.24 per 100,000 which, when rounded, shows the services rate reducing from 0.3 to 0.2.</b>

### Action

17. There is nothing in these data to suggest a need for a change in policy. However, the Board will have the opportunity to review data from individual sectors in the coming months.

### Paper clearance

18. This paper has been cleared by the HSE Senior Management Team.