2013 – Business as usual?

Provisional figures for the number of civil helicopter\(^1\) accidents, fatal accidents and fatalities in 2013 show no improvement over recent years and might suggest that, as far as safety is concerned, for many operators it’s “business as usual”.

In 2013, civil Western-built turbine helicopters suffered 234 known accidents of which 59 resulted in fatalities; killing 140 passengers and crew. In 2012 there were 229 known accidents including 48 with fatalities, giving rise to 108 passenger and crew deaths. The year 2013 also showed no improvement over the annual average for the last five years of 223 accidents, including 55 fatal accidents and 143 fatalities.

The year 2013 was also a bad one for deaths and injuries to unconnected third parties in helicopter accidents. During the year, there were two accidents, both in the UK, which apart from the occupants of the helicopter, also killed people on the ground. On 16 January an AgustaWestland AW109 collided with a tower crane while inbound to Battersea Heliport, London and crashed on the street below, killing the pilot and a pedestrian. Another pedestrian was seriously injured. On 29 November an Airbus Helicopters EC135 crashed into a bar in Glasgow, killing the pilot, two police observers and seven people in the bar. A further 11 people in the bar were seriously injured.

Fatal Accident Rates

The Western-built turbine helicopter fatal accident rate in 2013, at about one per 350 helicopters in service\(^2\), was some 20% worse than in 2012 when the rate was one per 420 helicopters.

However, although 2013’s fatal accident rate may have been worse than 2012’s, it still compares favorably with earlier years – the turbine helicopter fatal accident rate for the decade of the 1990s was one per 230 helicopters while that for the 2000s was one per 300 helicopters. The rate for the first four years of this decade (2010-2013), at one per 345 helicopters, was also marginally worse than last year.

The fatal accident rate for multi-engine helicopters in 2013 was one per 513 helicopters. During the decade of the 1990s, the rate was one per 245 helicopters while that for the 2000s was one per 350. The rate for the first four years of this decade (2010-2013), at one per 462 helicopters, was also worse than last year.

The fatal accident rate for single-engine helicopters in 2013 was one per 303 helicopters, marginally worse than the annual average for the first four years of this decade (2010-2013)

\(^1\) Western-built turbine helicopters only. Includes helicopters operated by government agencies whether civil registered or not.

\(^2\) Accident Rates. Currently we do not have good data for the number of flights etc on a global basis for this class of aircraft to allow us to calculate accident rates in the form of, for instance, “fatal accidents per million flights”. However, we do have good fleet data and this allows us to use “aircraft years” (average number of aircraft in the fleet) and “seat years” as measures of exposure when calculating accident rates. Nevertheless, although these rates do give a good indication of trends over the longer term, possible changes in utilisation from year to year should be borne in mind when comparing one year to another.
at one per 306 helicopters. The fatal accident rate for the 1990s was one per 225 helicopters and for the 2000s one per 287 helicopters.

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The underlying trend in the fatal accident rate for Western-built turbine helicopters, both as a whole and separately for single- and multi-engine helicopters, is going down and has been improving since about 2000. This class of helicopter, based on this metric, is now about 40% safer than at the end of the 1990s.
Fatal Accidents

Turbine helicopters suffered a total of 59 fatal accidents last year, 11 more than in 2012 but nine fewer than in 2011 when there were 68. The year 2011, however, was the worst for more than 20 years.

Despite the improving fatal accident rate, there has been no sustained improvement in the annual number of fatal accidents for many years which is at, on average, about 56 a year. The number of helicopters in operation has been increasing, so safety must, currently, just be keeping up with the expansion of the industry but has not improved to the point where the number of fatal accidents in a year begin to decline.

Single-engine helicopters suffered 43 fatal accidents in 2013, six more than in 2012 but three fewer than in 2011. The number of fatal accidents in 2013 is slightly higher than the long-term trend of 41 per year.

There were 16 fatal accidents involving multi-engine helicopters in 2013, five more than in 2012 but six fewer than in 2011. The result for 2013 again falls more or less in line with the long-term trend. Neither single- nor multi-engine helicopters have shown any improvement in the frequency of fatal accidents for more than 20 years.
As would be expected, the number of passenger and crew deaths as the result of turbine helicopter accidents in 2013 more or less tracked the number of fatal accidents suffered during the year.

In 2013, 85 passengers and crew died in the 43 fatal accidents suffered by single-engine helicopters, giving a simple average of about two fatalities per fatal accident. This figure is broadly similar to 2012, during which this class of helicopter suffered 37 fatal accidents, killing 79 passengers and crew. The result in 2013 was slightly better than the long-term average of about 90 fatalities per year but, as with the trend in the number of fatal accidents, there has been no sustained improvement in the number of fatalities per year for this class of helicopter for more than 20 years.

Last year, 55 passengers and crew died in the 16 fatal accidents suffered by multi-engine helicopters, giving a simple average of 3.4 fatalities per fatal accident. The 2013 death toll
was considerably worse than in 2012 when only 29 people died in 11 fatal accidents, but showed improvement over 2011, which saw 67 fatalities from 22 fatal accidents. However, as with single-engine helicopters, there has been no sustained improvement in the annual number of fatalities in accidents involving multi-engine helicopters and the 55 fatalities recorded in 2013 is the same as the long-term average.

The worst accidents in 2013 include:

- Bond Air Services EC135 (G-SPAO) on 29 November, which killed two police observers, the pilot and seven people on the ground when it crashed into a bar in Glasgow, Scotland.
- Columbia Helicopters BV234 (N241CH) on 7 January, which crashed shortly after take-off from Pucallpa, Peru, killing five passengers and two crew.
- United Helicopters Bell 212 (VT-HGC), on 29 September, which crashed in poor weather near Thane, India, killing three passengers and two crew.
• UniCredit Leasing EC130 (YR-BTM) on 29 July, which crashed after control was lost on take-off from Taureni, Romania, killing four passengers and the pilot. One other passenger was seriously injured.
• Private Robinson R66 (N646AG) on 27 July, which crashed killing the pilot and four passengers following an apparent loss of control after inadvertently entering cloud at night near Noxen, Pennsylvania.
• SADI Colombia MBB/Kawasaki BK117 (HK-4866) on 9 July, which reportedly collided with power lines and crashed in a remote location north of Ocana, Colombia, killing three passengers and two crew.
• Private Bell 206B (N207JA) on 7 June, which crashed shortly after take-off from a golf course near San Luis Potosi, Mexico, killing four passengers and the pilot.

**Fatality Rates**

Fatality rates in 2013, on a “deaths per 1,000 seats” basis, generally followed the pattern of fatal accidents, with both single- and multi-engine helicopters producing a relatively poor result.

Single-engine helicopters showed a slight deterioration in 2013, going from about one death per 750 seats in 2012, to one per 715 seats last year. The figure for multi-engine helicopters also disappointed, with a fatality rate in 2013 of one per 1,540 seats, considerably worse than in 2012 when the rate was one per 2,800 seats.

It is perhaps worrying that, although the trend in the fatality rate over the last 20 or so years has improved, this seems to have slowed in recent years.
Turbine Helicopters Safety & Losses
Annual review for 2013

Annual Fatality Rates (Western-built Turbine Helicopters) – Last Ten Years

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Fatalities (passengers and crew) per 1,000 seats in service

Paul Hayes, London, 29 January 2014

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