INCIDENT

Aircraft Type and Registration:	DHC-8-402 Dash 8, G-FLBD
No & Type of Engines:	2 Pratt & Whitney Canada PW150A turboprop engines
Year of Manufacture:	2009 (Serial no: 4259)
Date & Time (UTC):	1 June 2013 at 0907 hrs
Location:	On approach to Runway 27 at Liverpool Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 4 Passengers - 61
Injuries:	Crew - None Passengers - None
Nature of Damage:	None
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	57 years
Commander's Flying Experience:	12,431 hours (of which 1,723 were on type) Last 90 days - 80 hours Last 28 days - 62 hours
Information Source:	Aircraft Accident Report Form submitted by the flight crew and additional enquiries by the AAIB

Synopsis

The aircraft flew below the recommended glide slope during a visual approach, resulting in an EGPWS alert. The flight crew took appropriate action and continued the approach to a safe landing.

History of the flight

The aircraft was nearing the end of a short flight from the Isle of Man to Liverpool. The weather at Liverpool Airport was good and the aircraft initially flew a standard Runway 27 arrival under ATC radar vectors, with the co-pilot as handling pilot. Considering the good weather and absence of other traffic, the co-pilot asked the commander if he could to convert to a visual approach. The commander agreed and ATC approval was obtained.

The co-pilot began to configure the aircraft for landing, disengaged the autopilot and turned the aircraft right onto a base leg, tracking approximately towards the Runcorn Bridge while descending. The co-pilot was concerned that he may fly above the ideal glide path if he turned towards the runway too early, so he continued on the base leg and maintained the descent, recalling seeing a radio height of 1,200 ft. However, in doing so, the aircraft descended below the recommended profile. The commander prompted the co-pilot to turn right towards the runway at about the same time as the EGPWS[1] "CAUTION OBSTACLE" alert sounded. The flight crew adjusted the aircraft's flight path and

Footnote

[1] Enhanced Ground Proximity Warning System.

confirmed that it was safe and appropriate to continue the approach.

The commander reported that the co-pilot had allowed the aircraft's rate of descent to increase while on the base leg and that he himself had become distracted from monitoring the vertical profile.

The aircraft operator provided a summary of the recorded flight data, which showed that the aircraft reached a rate of descent of about 2,000 ft/min on base leg, and that the "CAUTION OBSTACLE" alert was generated at a radio height of 894 ft.

Discussion

The EGPWS is a terrain awareness and alerting system. It uses internal terrain, obstacle and airport databases to predict a potential conflict between an aeroplane's flight path and terrain or an obstacle. Potential conflict with terrain or an obstacle results in the EGPWS providing a visual and audio caution or warning alert. The obstacle concerned in this case was not positively identified but was possibly the Runcorn Bridge. The Aeroplane Operating Manual for the Dash 8 Q400 states that the correct crew response to the "CAUTION OBSTACLE" alert is to:

> *'take appropriate action to correct the unsafe condition.'*