AAIB Bulletin No: 5/2004 **Ref: EW/G2004/02/12** **Category: 3**

Aircraft Type and Registration:	Cameron Z-105 Hot Air Balloon, G-BZVU
No & Type of Engines:	No engines
Year of Manufacture:	2001
Date & Time (UTC):	28 February 2004 at 0930 hrs
Location:	Polsham, near Glastonbury, Somerset
Type of Flight:	Public Transport (Passenger)
Persons on Board:	Crew - 1 Passengers - 4
Injuries:	Crew - None Passengers - None
Nature of Damage:	Holes burnt in the balloon envelope
Commander's Licence:	Commercial Pilot's Licence
Commander's Age:	42 years
Commander's Flying Experience:	248 hours (of which 180 were on type) Last 90 days - 6 hours Last 28 days - 4 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Prior to the flight, the commander had obtained official weather information that gave a predicted wind from 340° at 5 kt. The flight had begun at Ashton Court near Bristol and had headed to the South toward Glastonbury. There had been no problems with the balloon and after about 1 hour 15 minutes in the air, a landing area was selected in farm land to the North of Glastonbury, close to the village of Polsham. The original landing area was intended to be beyond some farm buildings, between fencing and a field boundary hedge but, whilst approaching this area, the commander noticed that there were cows in the field. He aborted the approach and levelled the balloon; he then also assessed that the approach into this field would have to be very steep. It was at this point that he noticed power cables (33Kv type), in the path of the balloon which traversed the field beyond the boundary hedge. He assessed the distance to the power cables and, having decided that they were far enough away for the balloon not to encounter them, he then decided to land in the field and so recommenced the approach. On landing, the commander became aware that the wind speed on the ground was higher than he had anticipated and, as the balloon was deflating, it was dragged toward

the power cables by the wind, due to 'Spinnaker Effect'[1]. As it slowed to halt, the deflating envelope settled onto the 33 Kv power lines with a resulting 'flash' and 'pop' as the lines were shorted together. The balloon's basket then came to rest; the commander evacuated the passengers from the balloon and ordered them to move up wind. None of the passengers or the commander were injured during the accident.

A short time later the balloon envelope was blown from the power cables by the wind and settled in the field. After contacting the Power Company, the balloon was packed away. When the balloon was subsequently inspected, it was discovered that the contact with the power lines had burnt several holes in the envelope.

The commander, in his honest assessment of the accident, admitted that having seen the power cables he should not have attempted the landing and that he had placed too much reliance on the balloon deflation system. The unexpected higher wind speed at the ground level, estimated after the accident to be from 010° at 10 kt, was also considered to have been a factor.

[1] Spinnaker Effect – as the balloon deflates (or inflates), the wind causes the envelope to collapse and become concave. The envelope then has a shape like a boat's spinnaker sail and causes the balloon to be dragged by the wind.