



Australian Government

Australian Transport Safety Bureau

Navigation event involving Kavanagh Balloons E-240, VH-VBM

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Addendum

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Navigation event involving Kavanagh Balloons E-240, VH-VBM

What happened

On 21 May 2016, the pilot of a Kavanagh Balloons E-240, registered VH-VBM (VBM), planned to conduct a one-hour scenic flight from Bundoora, Victoria (Vic.) with nine passengers. Prior to commencing the flight, the pilot obtained the relevant weather forecasts and observations. The wind was from the north to north-west at 5 to 10 kt. The pilot therefore assessed the balloon would track in a southerly direction and nominated potential landing sites at Burnley and Dendy Park in Brighton (Figure 1).

Figure 1: Approximate track of VH-VBM and relevant locations¹



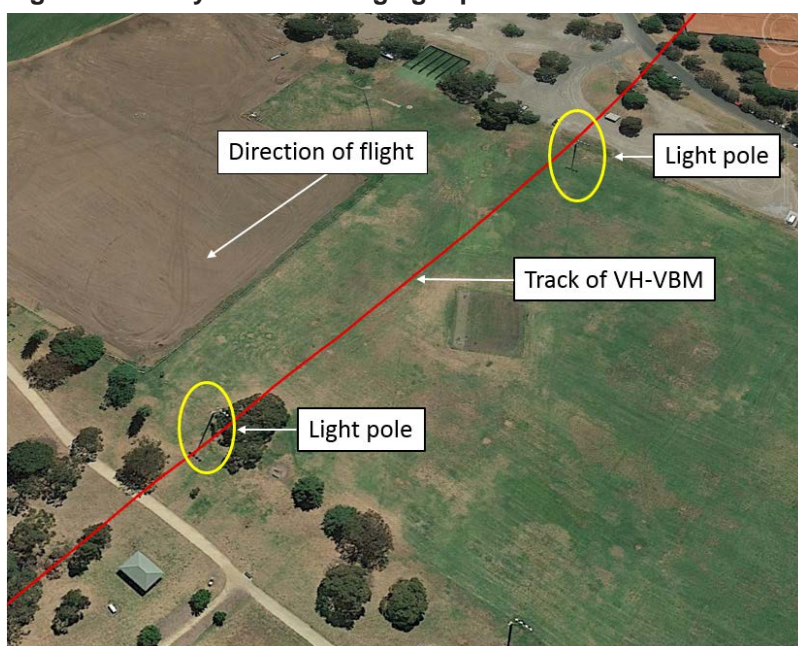
Source: Google earth, annotated by ATSB

¹ Approximate track based on GPS and radar data.

At about 0700 Eastern Standard Time (EST), the balloon departed Bundoora in company with five other balloons. About 35 minutes later, the balloon arrived overhead Burnley. The pilot of VBM elected to continue to Dendy Park, along with another balloon from the same operator, to extend the flight to one hour. At that time, the pilots of four other balloons, which had been operating in company with VBM, elected to climb into a more westerly wind to track to Moorabbin Airport, Vic.

At about 0800, the balloon in company with VBM landed safely at Dendy Park. The wind speed was about 10 kt as VBM approached Dendy Park. As the balloon descended to land, the pilot sighted a light pole directly in the balloon's path (Figure 2). The pilot then lit the balloon's burners to climb over the pole, however, a second light pole stood directly in the balloon's path on the far side of the available landing area. Due to the balloon's height and the wind, the pilot assessed that the balloon may collide with the second pole if the pilot attempted a landing and therefore elected not to land in the park.

Figure 2: Dendy Park showing light poles



Source: Google earth, annotated by ATSB

The pilot then attempted to land in a golf course beyond the park, but the balloon did not track towards a safe landing area. The balloon continued at low level over parkland, however, the pilot also assessed this area to be unsafe for landing.

At about 0820, the balloon crossed the coast and tracked out over Port Phillip Bay. The pilot commenced a climb into a more westerly wind to track towards land. At about 0825, the pilot contacted air traffic control (ATC) and requested a clearance to climb to 5,000 ft. About 90 seconds later, the pilot advised that they were now at 4,000 ft and may require emergency assistance. At that time, the pilot stated that the balloon had an estimated 30 minutes of fuel remaining.

At about 0830, the balloon tracked back over land. The pilot advised ATC that in the 5 minutes it would then take to descend and land, the balloon would track back over water. The pilot elected to descend to conserve fuel and prepared for a water landing. The pilot briefed the passengers and descended about 1 km from shore. The pilot then enacted the company emergency procedures. Air traffic control recordings showed that at 0841, when asked by ATC if it was their 'intention to ditch the balloon at the moment', the pilot confirmed that it was.

At about 0845, the pilot established contact with the crew of a nearby vessel. The pilot coordinated with the crew of the vessel to arrange the evacuation of passengers. The passengers evacuated one or two at a time onto the vessel over the next 30 minutes (Figure 3).

After evacuating the passengers, the pilot conducted a climb to about 2,000 ft back into more favourable winds and subsequently landed safely at Mount Martha, Vic. (Figure 1).

The pilot and passengers were uninjured and the balloon was not damaged.

Figure 3: Evacuation of passengers from VBM to vessel



Source: ABC News

Pilot comments

The pilot provided the following comments:

- The ground crew assisting the balloon which landed before VBM, were available to assist the landing at Dendy Park. The pilot felt that a successful landing could not be assured even with the assistance of ground crew.
- The company emergency procedures for conducting a water landing were available and clear. This greatly reduced stress and ensured the pilot and passengers were well prepared for a possible water landing.
- It was not their sole intention to ditch the balloon. Ditching was one possible scenario and the pilot was preparing the balloon and passengers for that situation should it eventuate.
- If they encountered similar weather conditions in future, the pilot would launch from further east. The north-easterly surface wind experienced was not forecast. In the future, the pilot would look for indicators of this wind prior to selection of a launch site.
- Landing in a 10 kt wind is normally manageable, however, the light pole was in the balloon’s path (at Dendy Park).
- At the time the emergency was declared, the estimated endurance was 30 minutes. Once the passengers had been evacuated the balloon endurance was greatly increased.²

Carriage of life jackets

No life jackets were carried on board VBM for this flight.

² The reduced weight of the balloon without passengers on board required less fuel use to remain aloft, resulting in an increase in endurance.

As the planned flight, including the expected departure and approach paths, did not include an over water component, there was no requirement to carry life jackets based on Civil Aviation Order 20.11.

Civil Aviation Safety Authority (CASA) comments

CASA provided the following comments:

- While the evacuation was conducted in an appropriate manner, the locality of a suitable vessel with competent crew may have had a significant positive effect on the safe rescue, which under the circumstances, was a fortunate rather than a well-planned emergency procedure.
- The company's operations manual requires that, as soon as the balloon crosses the coastline, the ground crew be contacted and an emergency telephone call made. Immediately after this, a MAYDAY³ is to be declared. This did not occur until the balloon was 1km out over the bay. As the pilot did not make a PAN or MAYDAY call as required, ATC did not have notice to apply the appropriate degree of severity to the incident. This was confirmed by Victoria Police during their incident debrief where it was highlighted that there was no communication or coordination between ATC and ground-based emergency services.

Safety message

This incident provides a good example of the value of effective emergency procedures. Despite having completed thorough pre-flight planning and preparation including weather and field selection, a number of factors combined to create a difficult situation for the pilot. Thorough emergency procedures along with regular training greatly reduced workload in the incident and assisted the pilot in achieving a safe outcome.

Declaring an emergency early, through the use of standard phrases such as 'MAYDAY' is vital in clearly communicating a requirement for emergency assistance or advising of an emergency situation. This enables ATC to provide assistance and coordinate emergency services without delay. The Airservices Australia safety bulletin [What happens when I declare an emergency?](#) provides further information on the actions taken by ATC once an emergency is declared.

³ MAYDAY is an internationally recognised radio broadcast for urgent assistance.

General details

Occurrence details

Date and time:	21 May 2016 – 0830 EST	
Occurrence category:	Serious incident	
Primary occurrence type:	Navigation - other	
Location:	near Moorabbin Airport (Black Rock), Victoria	
	Latitude: 37° 58.55' S	Longitude: 145° 06.13' E

Aircraft details

Manufacturer and model:	Kavanagh Balloons E-240	
Registration:	VH-VBM	
Serial number:	E240-448	
Type of operation:	Charter - Passenger	
Persons on board:	Crew – 1	Passengers – 9
Injuries:	Crew – 0	Passengers – 0
Aircraft damage:	Nil	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to operations involving the travelling public.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.