

## Abbreviated version of UK Accident report:

Source: Aviation Safety Network of FSF. Full official version does not seem to be available on AAIB website.

Date:	Wednesday 27 October 1965
Time:	01:23 UTC
Type:	Vickers 951 Vanguard
Operator:	British European Airways - BEA
Registration:	G-APEE
C/n / msn:	708
First flight:	1960-02-03 {5 years 9 months}
Engines:	4 Rolls-Royce Tyne 506
Crew:	Fatalities: 6 / Occupants: 6
Passengers:	Fatalities: 30 / Occupants: 30
Total:	Fatalities: 36 / Occupants: 36
Airplane damage:	Damaged beyond repair
Location:	London-Heathrow Airport (LHR) United Kingdom
Phase:	Approach (APR)
Nature:	Domestic Scheduled Passenger
Departure airport:	Edinburgh-Turnhouse Airport (EDI/EGPH) United Kingdom
Destination airport:	London-Heathrow Airport (LHR/EGLL) United Kingdom

**Narrative:** Vickers Vanguard G-APEE departed Edinburgh (EDI) at 23:17 hours UTC on October 26 for an domestic flight to London (LHR). The flight was uneventful until Garston VOR, the holding point. At 00:15 the captain decided to attempt a landing on runway 28R. The co-pilot was probably making the ILS approach, monitored on PAR by the air traffic control officer, while the pilot-in-command would be seeking a visual reference to enable him if possible to take over control and land.

RVR on this runway was reported as 350 m (1140 feet). At 00:23 the captain informed ATC that he was overshooting. He then decided to make a second attempt, this time on runway 28L for which the RVR was reported as 500 m (1634 feet). Since the ILS was operating on glide path only and not in azimuth, ATC provided a full talk-down. At half a mile from touchdown the PAR Controller was not entirely satisfied with the positioning of the aircraft in azimuth and was about to give instructions to overshoot when he observed that the pilot had in fact instituted an overshoot procedure. At 00:35 hours the pilot-in-command reported that they overshoot because they did not see anything.

He then requested to join one of the stacks and hold for a little while. This request was granted. The pilot-in-command decided to wait for half an hour at the Garston holding point. At 00:46 another Vanguard landed successfully on runway 28R. At 01:11, although there had been no improvement in the weather conditions, the pilot-in-command probably stimulated by the other aircraft's success, asked permission to make another attempt to land on runway 28R.

Meanwhile another Vanguard aircraft had overshoot on 28R. However, the captain started another monitored ILS final approach on runway 28R at 01:18. At 01:22 the PAR controller passed the information that the aircraft was 3/4 of a mile from touchdown and on the centre line. Twenty-two seconds later the pilot-in-command reported they were overshooting. The co-pilot rotated the

airplane abruptly and the captain raised the flaps, instead of selecting the flaps to 20 degrees, he selected 5 degrees or fully up.

Because the speed was not building up, the co-pilot relaxed pressure on the elevator. Speed increased to 137 kts and the vertical speed indicator showed a rate of climb of 850 feet/min. The co-pilot therefore put the aircraft's nose further down.

At four seconds before impact the VSI was probably showing a substantial rate of climb and the altimeter a gain in height, although the airplane was in fact losing height. The co-pilot was misled into continuing his down pressure on the elevator. The Vanguard had by then entered a steep dive. The aircraft hit the runway about 2600 feet from the threshold.

**PROBABLE CAUSE:** "The cause of the accident was attributed to pilot error due to the following combination of events:

- 1) low visibility;
- 2) tiredness;
- 3) anxiety;
- 4) disorientation;
- 5) lack of experience of overshooting in fog;
- 6) over-reliance on pressure instruments;
- 7) position error in pressure instruments;
- 8) lacunae in training;
- 9) unsatisfactory overshoot procedure;
- 10) indifferent flap selector mechanism design;
- 11) wrong flap selection"

The Board made the following **recommendations:**

- 1) Screens should be used during blind flying training.
- 2) If technically possible, the present director horizons should be replaced by more up-to-date instruments with a greater range of travel and more obvious failure warning flags. The co-pilot's instrument display should, if possible, be equipped with the same type of servo-altimeter as that now provided for the pilot-in-command.
- 3) Research should be made to determine how far the pressure instruments on the Vanguard are rendered inaccurate during rapid changes of pitch-attitude by position error of the static vent. Depending on the results of this research the necessary modifications should be made to the Vanguard simulator.
- 4) The system whereby no positive approval of an operator's weather minima is required to be given by the Ministry is unsatisfactory. It gives power whilst withholding responsibility. Positive approval or disapproval should be required.
- 5) Frequent regular checks should be made of the runway visual range lighting system to ensure that it does not materially differ in intensity from the runway lighting proper.
- 6) The flight data recorder should include a parameter for elevator angles.