



## MINISTRY OF DEFENCE

### Military Aircraft Accident Summary

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Aircraft:	Shackleton AEW MK2 WR965
Date of accident:	30 April 1990
Parent Airfield:	RAF Lossiemouth
Place of accident:	Isle of Harris, Outer Hebrides
Crew:	Ten
Casualties:	Ten Fatal

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#### Circumstances

1. On the morning of 30 April 1990, the crew of Shackleton AEW2 WR965 took off from RAF Lossiemouth to participate in a maritime exercise in the Benbecula area to the west of mainland Scotland. The exercise was to be in two parts with a time interval between. To make most economical use of the Shackleton's flying time it was intended to utilise the time interval to undertake some continuation training for which the crew had appropriate authorisation. Although the weather was forecast to be generally clear in the aircraft's operating area there were areas of low cloud and poor visibility over Scottish coastal areas.

2. The first part of the sortie was completed without incident and at 0945 hours GMT the crew took the opportunity to participate with a Tornado F3 in mutual training which required the Shackleton's radar to be set to standby/off. After completing this training, the crew commenced their own continuation training which was to include a visual approach to Benbecula airfield.

3. The crew contacted Benbecula Air Traffic Control (ATC) at 1025 hours GMT requesting permission for an approach, stating that they were about 20 miles west of the airfield; permission was given and Benbecula ATC passed their actual weather to the crew. Subsequent investigation determined, however, that the aircraft was actually 15 miles north of the position which it had reported at this time. At 1030 hours GMT two RAF personnel saw the Shackleton orbiting an island some 12 miles to the north of Benbecula airfield, and at 1034 hours GMT the Shackleton crew called Benbecula ATC stating that the weather was not sufficiently good for an approach and that they were turning right and climbing. Benbecula ATC replied on two occasions that the transmission was distorted and requested the crew to repeat their message.

4. This message from the Shackleton was the last known radio contact and at around 1037 hours GMT it struck the ground about 30 ft below the summit of an 823 ft hill on the Isle of Harris. Reliable evidence indicates that at that time and in that vicinity the cloudbase was 200 ft above mean sea level, with cloud tops at 3000 ft. At impact, the aircraft was in controlled flight with all four engines developing cruise power. There were no survivors.

#### **Cause**

5. In seeking to determine the cause of the accident the Board of Inquiry considered a number of possible factors. They concluded that the aircraft was on an authorised sortie at the time of the accident, that the aircraft was fully serviceable and that its age was not a factor. They also considered that no external factor, such as birdstrike or lightning strike, contributed to the accident.

6. The Board of Inquiry considered whether navigational inaccuracy might have been responsible for the accident. The weight of evidence indicates that the crew did not know their true position. The navigation equipment recovered from the wreckage showed no signs of pre-impact failure, but the last position shown on the Ground Position Indicator was some 18 miles south-south-west of the accident site, indicating that the equipment might not have been updated correctly. It was not possible to determine the status of the radar at the time of impact. It was in the standby/off position for the joint training with the Tornado F3 and it would have been normal procedure to leave it at standby/off for the approach at Benbecula. Had the crew switched it on immediately after the decision not to conduct the approach, there would not have been time for the radar to become fully operational before the accident took place.

7. Nevertheless, even where navigational inaccuracies occur, RAF flying procedures are designed to ensure that aircraft continue to fly safely. On encountering deteriorating weather, pilots are required to climb to a safe altitude, which the Shackleton pilots did not do. Thus navigational inaccuracy was not considered to be the primary cause of this accident.

### **Conclusion**

8. The Board of Inquiry concluded that the accident was caused because the aircraft was flown below a safe altitude in unsuitable weather conditions; the Board were unable to determine the reason for this.

### **Subsequent Actions**

9. The investigation revealed that certain of the Shackleton Squadron's operating practices were not in accordance with RAF Standing Orders. A full review of the Squadron's operating practices has therefore been instituted, and additional independent staff inspections will be carried out at regular intervals.