

FINAL REPORT

AAIU Synoptic Report No: 2007-006

AAIU File No: 2006/0097

Published: 20/03/07

In accordance with the provisions of SI 205 of 1997, the Chief Inspector of Air Accidents, on 13 December 2006, appointed, Mr. Frank Russell as the Investigator-in-Charge to carry out a Field Investigation into this incident and prepare a Synoptic Report.

Aircraft Type and Registration:	Bolkow 105 DB, EI-BLD
No. and Type of Engines:	2 x Allison 250-C20B
Aircraft Serial Number:	S 381
Year of Manufacture:	1979
Date and Time (UTC):	13 December 2006 @ 10.20 hrs
Location:	Bailey Lighthouse, Co. Dublin
Type of Flight:	Public Transport
Persons on Board:	Crew - One Passengers - One
Injuries:	Crew - Nil Passengers - Nil
Nature of Damage:	Skid gear damage due to heavy landing
Commander's Licence:	Commercial Pilot's Licence
Commander's Details:	Male, aged 40 years
Commander's Flying Experience:	7,700 hours
Information Source:	Notification by Operator and AAIU Incident Report Form submitted by Pilot.

SYNOPSIS

Wind conditions were blustery as EI-BLD approached to land on the helipad of the Bailey Lighthouse, Howth. During the final 15 feet of travel the helicopter dropped suddenly to the ground with a resultant hard landing. Normal engine shutdown and crew exit followed. The operator grounded the aircraft pending a technical investigation.

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1. FACTUAL INFORMATION

1.1 History of the Flight

EI-BLD was engaged on a routine re-supply and maintenance operation of various Irish lighthouses and had flown that morning from Rosslare heliport to the Bailey Lighthouse. The Pilot recalled that, while approaching to land at the Bailey, in strong southwesterly winds, he expected some turbulence. The initial approach he recalled, was relatively smooth but with some 15 feet to go to landing the aircraft descended rapidly and landed hard. The application of power had no effect in reducing the rate of descent. The Pilot's assessment of the cause of the incident was windshear in the latter part of the approach to the Bailey helipad.

1.2 Meteorological Information

The Aviation Services Division of Met Éireann provided the following weather information:

1.2.1 General situation:

A complex low pressure system located south of Scotland maintained a very strong, moist, stable southwesterly airflow over the area. The associated cold and warm fronts were located to the northwest and west of Ireland and in the eastern part of the North Sea, respectively.

Wind: At 2000 ft: the general gradient wind was 240/60 - 65 kt, but immediately east and southeast of Dublin Airport it could have reached 75 - 80 kt. Surface winds: generally 220/25 - 30 kt with gusts of 45 kt. However, depending on local topography, mean speeds could easily have reached 35 - 40 kt with gust of 60 - 65 kt.

Weather: Isolated outbreaks of light rain

Visibility: 10 + km

Cloud: SCT010 BKN018 BKN030

**Temperature/
Dew Point:** 11/09° C

MSL Pressure: 1008 hpa

1.2.2 Potential for windshear and turbulence

Because of the strength of the gradient wind there was certainly potential for localised significant windshear and severe low-level mechanical turbulence. These effects could have been exacerbated by mountain wave activity generated from the Wicklow Mountains and local topographic features.

1.3 Technical Information

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The helicopter was recovered to the Operator's facility at Trevet Airfield, Co Meath. An initial inspection found that the only significant damage was caused to the crosstubes of the landing gear. These appear to have absorbed most of the landing impact and are being replaced with new items. The fuselage alignment was also checked and found to be satisfactory. Finally, a hard landing inspection in accordance with the Manufacturers instructions was carried out and no further defects were found.

2. CONCLUSION

The helicopter was subjected to sudden severe localized windshear/turbulence during landing at the helipad at the Bailey Lighthouse.

3. SAFETY RECOMMENDATIONS

This Report does not sustain any Safety Recommendations.

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