ACCIDENT

Aircraft Type and Registration:	Aerospatiale SA365N Dauphin 2, G-BLUN
No & Type of Engines:	2 Turbomeca Arriel 1C turboshaft engines
Year of Manufacture:	1985
Date & Time (UTC):	27 December 2006 at 1834 hrs
Location:	Approximately 0·25 nm south of the North Morecambe platform, located within the Morecambe Bay gas field in the Irish Sea Latitude N 53º 57·361' Longitude W 003º 40·198'
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 2 Passengers - 5
Injuries:	Crew - 2 (Fatal) Passengers - 4 (Fatal) 1 (Missing)
Nature of Damage:	Helicopter destroyed
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	52 years
Commander's Flying Experience:	8,856 hours (hours on type unverified) Last 90 days - 97 hours Last 28 days - 29 hours
Co-pilot's Age:	33 years
Co-pilot's Licence:	Commercial Pilot's Licence
Co-pilot's Flying Experience:	3,565 hours (of which 377 hours were on type) Last 90 days - 62 hours Last 28 days - 19 hours
Information Source:	AAIB Field Investigation

The investigation

The London Air Traffic Control Centre notified the Air Accidents Investigation Branch (AAIB) of the accident at 1906 hrs on 27 December 2006 and the investigation commenced the next day. The Chief Inspector of Air Accidents has ordered an Inspector's Investigation be conducted into the circumstances of this accident under the provisions of the Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996.

Because of the importance of helicopter operations in support of the offshore oil and gas industry it is considered appropriate to disseminate the results of the initial

investigation as soon as possible. No analysis of the facts has been attempted and no safety recommendations are considered appropriate at this time.

History of the flight

The helicopter operator's base at Blackpool utilises SA365N (Dauphin) helicopters in support of offshore gas operations in the Morecambe Bay gas field. On the night of the accident, the helicopter departed Blackpool to complete a scheduled flight consisting of eight sectors in the Morecambe Bay gas field. The first two sectors were completed without incident. The helicopter then took off from the Millom West platform at 1826 hrs, and commenced a transit to the North Morecambe platform at a height of 500 ft.

The three-man helideck team on the North Morecambe platform saw the helicopter making its approach to the platform. They reported that the approach appeared normal and they assumed that the helicopter was going to fly a standard approach and land on the platform. They then saw the helicopter turn to the right and fly close to the platform without appearing to slow down. They were not aware of any strange noises or any sudden movements of the helicopter. They then saw the helicopter straighten briefly before it started to bank slightly as it continued descending at a steady rate. They lost sight of the helicopter and a few seconds later they heard it crash into the sea; the alarm was raised and the coastguard was contacted at 1835 hrs.

The fuselage disintegrated on impact and the majority of the structure sank. Two rescue craft were launched from a multipurpose standby vessel that was on station nearby and they arrived at the scene of the accident within 12 minutes. No survivors were recovered from amongst the five passengers and two crew.

Weather

A weather observation from the Central platform (located 7.5 nm south-south-east of the North Morecambe platform), recorded at 1700 hrs, reported the following conditions: surface wind from 150º at 22 kt, visibility 4 km in rain, sky obscured, temperature +5ºC, dew point +4ºC and the mean sea level pressure 1020 hPa. This information was passed to the helicopter operator for flight planning purposes.

A weather observation from the standby vessel, on station near to the North Morecambe platform recorded at 1810 hrs, reported a surface wind from 130º at 20 kt with a visibility between 3 to 5 nm (5.6 to 9.2 km).

The minimum weather conditions for flights at night between helidecks, when the over water sector is less than 10 nm, require a cloud base that allows a flight at 500 ft to remain clear of cloud with a visibility of 5 km.

Search and rescue

The search and rescue operation was co-ordinated by the Liverpool Maritime Rescue Co-ordination Centre. The first search and rescue helicopter arrived at the accident scene within 35 minutes of the accident and assisted the standby vessel's rescue craft that were already searching the area for survivors. Six bodies were recovered that evening; the search for the seventh occupant continued for a further two days without success.

Wreckage recovery

The tail boom and fenestron were found floating on the surface and recovered within the first few hours. The recovery of the remaining wreckage and the flight data recorder was hampered by persistent storms in the Irish Sea throughout early January. The location of the flight data recorder was identified on 5 January and wreckage

was subsequently located in the immediate area. The next major elements of wreckage, consisting of the main rotor head, the main gearbox and both engines, were recovered on 10 January. The remaining major items, together with the flight data recorder, were recovered on 16 January.

Engineering

Despite the severely disrupted condition of the wreckage, it is estimated that more than 90% of the helicopter has been recovered including the tail rotor, the main rotor head, the main gearbox and both engines. Representatives of the airframe and engine manufacturers have completed an initial appraisal of the wreckage under the supervision of AAIB engineers.

The conclusion of this preliminary examination is that there are no signs of pre-impact malfunction of any major mechanical components, including the tail rotor and its drive shaft. Indications of torque delivery were observed on both the engines and the significant damage to the main rotor blades is consistent with normal operating rpm at impact with the sea. A more detailed strip inspection of the transmission, engines, flying control actuators and instruments will now commence.

Recorded data

The helicopter was fitted with a combined data and voice recorder. The recordings, which also covered previous flights, were successfully replayed. Initial analysis of the recordings indicates that the first two sectors, which were flown by the co-pilot, were completed without incident.

The recordings indicate that the helicopter departed Millom West with the co-pilot as the handling pilot. The approach to the North Morecambe platform was initially on a heading of 120º(M). During the later stages of the approach the helicopter slowly pitched nose down and commenced a slow roll to the right. At the same time the collective lever was raised, increasing power from the engines, and the indicated airspeed and altitude began to increase. The crew became unhappy with the approach and decided to abort the attempt to land.

A go-around was commenced during which the helicopter continued to roll to the right and pitch nose down. The co-pilot asked for assistance and the commander took control. The data indicates that one second later the helicopter had attained a maximum nose down pitch attitude of 38º, coincident with a bank angle of 38º to the right. The indicated airspeed was increasing through 80 kt, and the radio altitude was reducing through 300 ft with a rate of descent of approximately 1,400 ft per minute. Over the next two and a half seconds, the helicopter rolled level and the pitch attitude reduced to 13º nose down. The radio altitude indicated 170 ft, with an indicated airspeed in excess of 100 kt, and a rate of descent of about 1,400 ft per minute. During the next five and a half seconds, there was no significant change in the pitch attitude and the indicated airspeed continued to increase as the helicopter descended; over the same period, the helicopter commenced a slow roll to the right. The last recorded parameters indicate a radio altitude of 30 ft, a 12º nose down pitch attitude, an indicated airspeed of 126 kt, and an angle of bank of 20º to the right.

A review of the recorded data to date has not indicated any problems of a technical nature and no helicopter manoeuvres have been identified which were not in response to flight control inputs.

Further investigation

A detailed investigation of the wreckage is continuing, together with further analysis of the recorded data; the AAIB will also conduct a thorough assessment of the operational aspects of the accident.

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