

AIRCRAFT ACCIDENT REPORT No: 7/2008

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**REPORT ON THE ACCIDENT TO
AEROSPATIALE SA365N, G-BLUN
NEAR THE NORTH MORECAMBE GAS PLATFORM, MORECAMBE BAY
ON 27 DECEMBER 2006**

Operator:	CHC Scotia Limited
Aircraft Type and Model:	Aerospatale SA365N, Dauphin 2
Manufacturer's Serial No:	6114
Nationality:	British
Registration:	G-BLUN
Location:	Approximately 450 metres south-south-east of the North Morecambe gas platform, Morecambe Bay, Irish Sea Latitude N 53° 57.361' Longitude W 003° 40.198'
Date and Time:	27 December 2006 at approximately 1833 hrs All times in this report are UTC (coincident with local time)

Synopsis

The London Air Traffic Control Centre notified the Air Accidents Investigation Branch of the accident at 1906 hrs on 27 December 2006; the investigation commenced the next day. The following Inspectors participated in the investigation:

Mr R Tydeman	Investigator-in-Charge
Mr M Cook	Operations
Mr K Conradi	Operations
Mr M Jarvis	Engineering
Mr S Moss	Engineering
Mr P Wivell	Flight Data Recorders
Mr A Burrows	Flight Data Recorders

The helicopter departed Blackpool at 1800 hrs on a scheduled flight consisting of eight sectors within the Morecambe Bay gas field. The first two sectors were completed without incident but, when preparing to land on the North Morecambe platform, in the dark, the helicopter flew past the platform and struck the surface of the sea. The fuselage disintegrated on impact and the majority of the structure sank. Two fast response craft from a multipurpose standby vessel, which was on position close to the platform, arrived at the scene of the accident 16 minutes later. There were no survivors amongst the five passengers or two crew.

The investigation identified the following contributory factors:

- 1 The co-pilot was flying an approach to the North Morecambe platform at night, in poor weather conditions, when he lost control of the helicopter and requested assistance from the commander. The transfer of control was not precise and the commander did not take control until approximately four seconds after the initial request for help. The commander's initial actions to recover the helicopter were correct but the helicopter subsequently descended into the sea.
- 2 The approach profile flown by the co-pilot suggests a problem in assessing the correct approach descent angle, probably, as identified in trials by the CAA, because of the limited visual cues available to him.
- 3 An appropriate synthetic training device for the SA365N was available but it was not used; the extensive benefits of conducting training and checking in such an environment were therefore missed.

Six Safety Recommendations have been made.

Findings

1. The flight crew were properly licensed and qualified to conduct the flight, and were well rested. Their training was in accordance with the operator's requirements.
2. The helicopter was certified, equipped and maintained in accordance with existing regulations and approved procedures. At the time of the accident there were no recorded

Acceptable Deferred Defects that might have contributed to the incident.

3. The flight crew had the relevant meteorological information and, whilst the weather conditions were poor, they were above the required minima and not unusual for such operations.
4. The flight crew were familiar with operations onto the North Morecambe platform and the lighting on the platform was serviceable.
5. The co-pilot visually acquired the helideck at a range of about 6,800 m.
6. The crew flew the approach by reference to visual cues that, because of the dark and prevailing poor weather conditions, did not provide adequate information required for the normal perception of distance.
7. The paucity of instrument cross-checks by the commander did not assist the co-pilot in managing the approach profile and there was no evidence of monitoring by the commander.
8. The co-pilot, who became disorientated during the approach, did not positively call 'going around'.
9. The go-around decision and the transfer of control from the co-pilot to the commander were not handled appropriately. The commander, who appeared not to be mentally primed to take control, did not do so until approximately four seconds after the initial request for help.

10. The commander, who took control of the helicopter when it was in an extreme and unusual attitude, rolled the helicopter to a wings level attitude and reduced the pitch angle.
11. During the attempted recovery of the helicopter from its unusual attitude the commander was devoid of any external visual cues and was possibly distracted over concerns for the well being of his co-pilot.
12. Concerns for his co-pilot and some degree of disorientation possibly distracted the commander from his usual instrument scan to the extent that he did not notice the increasing angle of bank to the right and the helicopter's continuing descent into the sea.
13. The impact of the helicopter's fuselage with the sea surface was not survivable.
14. Search and rescue assets at sea and ashore were deployed without delay.
15. The yellow immersion suits worn by the passengers were noticeably more conspicuous in the dark than the blue immersion suits worn by the pilots when illuminated by a helicopter's searchlight.
16. The bodies of the fatally injured crew and four of the passengers were recovered within approximately 4 hours of the accident. The body of the remaining passenger has not been recovered.
17. There was no evidence of any technical malfunction that may have contributed to the accident.
18. There were no handling quality issues identified during the flight testing of another SA365N helicopter that could have had a bearing on the accident.
19. The helicopter's behaviour during the accident flight was consistent with the flight control inputs.
20. The location of the radio altimeter, optimised for reference in the final stages of a visual landing on a helipad was difficult to include in the pilot's instrument scan during a go-around.
21. The torquemeter's size, readability and location made it difficult to use by the pilot in the left seat at any stage during an approach and go-around.
22. The post-mortem examination showed that the commander had severe coronary artery disease but this had no bearing on the cause of the accident.
23. The operator did not train or periodically assess their crews in a synthetic training device although such a device, configured to represent a SA365N helicopter, was available.
24. There is no industry requirement for formal training of those personnel involved in the compilation of meteorological data for aviation weather reports. In addition, the Logistics Supervisor, who compiled the meteorological observation for the gas field used on the evening of 27 December 2006, was not provided with any equipment to assist him in the production of accurate weather observations.

Safety Recommendations

The following Safety Recommendations were made:

Safety Recommendation 2008-032

It is recommended that CHC (Scotia) review their Standard Operating Procedures related to helideck approaches, to ensure that the non-handling pilot actively monitors the approach and announces range to touchdown and height information to assist the flying pilot with his execution of the approach profile. This is especially important on the SA365N helicopter when the co-pilot is flying approaches in poor visual conditions and cannot easily monitor a poorly positioned radio altimeter.

Safety Recommendation 2008-033

It is recommended that the European Aviation Safety Agency ensure that research into instrument landing systems that would assist helicopter crews to monitor their approaches to oil and gas platforms in poor visual flying conditions and at night is completed without delay.

Safety Recommendation 2008-034

It is recommended that CHC (Scotia) conduct a thorough review of their Standard Operating Procedures related to helideck approaches, for all helicopter types operated by the company, with the aim of ensuring safe operations.

Safety Recommendation 2008-035

It is recommended that the Civil Aviation Authority should ensure that the recurrent training and checking of JAR-OPS, Part 3 approved operators should be carried out in an approved Synthetic Training Device.

Safety Recommendation 2008-036

It is recommended that the European Aviation Safety Agency (EASA) investigate methods to increase the conspicuity of immersion suits worn by the flight crew, in order to improve the location of incapacitated survivors of a helicopter ditching.

Safety Recommendation 2008-037

It is recommended that the Civil Aviation Authority ensure that personnel who are required to conduct weather observations from offshore installations are suitably trained, qualified and provided with equipment that can accurately measure the cloud base and visibility.