Safety Regulation Group
Safety Investigation and Data Department

Follow-up Action on Occurrence Report

ACCIDENT TO AS332L, G-BKZE, ON-BOARD WEST NAVION DRILLING SHIP, 80NM WEST OF SHETLAND ISLANDS ON 10 NOVEMBER 2001

(HELICOPTER TOPPLED OVER ON DECK AFTER UNNOTICED MOVEMENT OF DRILLING SHIP)

CAA FACTOR NUMBER	:	F29/2004
FACTOR PUBLICATION DATE	:	18 June 2004
OPERATOR	:	CHC Scotia Helicopters
CAA OCCURRENCE NUMBER	:	2001/07711
AAIB REPORT	:	AAR 3/2004

SYNOPSIS

(From AAIB Report)

The helicopter landed on the helideck of the West Navion drilling ship and was being refuelled with the rotors running. The commander remained on board whilst the co-pilot disembarked and assisted the ship's crew. About five minutes after landing, unknown to the pilot and unnoticed by the ship's crew, the West Navion's Dynamic Positioning (DP) system reverted to MANUAL heading control and the ship's heading started to drift slowly to the right. The wind at that time was westerly at 32 kt with gusts to 42 kt, and, as the ship's heading drifted, the helicopter was subjected to an increasing crosswind component. At 1254 hrs, some seven minutes after the ship's heading started to drift, the helicopter toppled over to its right. The co-pilot, who was the only person outside the helicopter on the helideck, was severely injured by flying debris as the helicopter's main rotors broke up on impact with the helideck. The helicopter came to rest on its right side and the commander vacated, with some difficulty, through the left pilot's door. Mathematical analysis of the forces acting on the helicopter indicated that the most significant toppling moments were caused by aerodynamic forces arising from the increasing lateral wind component to which the aircraft was subjected as the ship yawed to the right.

The investigation identified the following causal factors:

(i) Unknown to the crew on the bridge, the ship's Dynamic Positioning system reverted to manual heading control and the ship's heading began to drift to the right.

(ii) The increased lateral wind component to which the helicopter was consequently subjected, generated increasing aerodynamic forces to the right due to the change in the relative wind, and these forces provided the most significant toppling moments of all the forces acting on the helicopter.

(iii) The 'static' roll attitude of the helicopter adopted after landing, relative to the helideck, of 2.5° to the right, together with the lift force generated by the main rotor in the prevailing wind, the 1° list of the ship to the right at the time of the accident and the natural motion of the ship, contributed to the de-stabilisation of the helicopter.

(iv) The lack of procedures on the ship to transmit the change in the alert status to the crew of the helicopter, and of any specified procedure available to flight crews concerning action to be taken if control of the ship is lost or degraded whilst on the helideck, denied the pilot an appropriate course of action to ensure the safety of the helicopter.

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Four safety recommendations have been made as a result of this investigation.

FOLLOW UP ACTION

The four Safety Recommendations, made by the AAIB following their investigation, are reproduced below, together with the CAA's responses.

Recommendation 2003-133

It is recommended that the CAA should require Operators conducting offshore operations to publish crosswind limitations for helicopters when operating to, and when positioned on, helidecks, incorporating these limits into their company Operations Manuals.

CAA Response

The CAA accepts this Recommendation.

A FODCOM will be published by 31 August 2004 informing operators conducting offshore operations of the need to publish crosswind limitations for helicopters when operating to, and when positioned on, helidecks, and the incorporation of these limits into their company Operations Manuals.

CAA Status - Open

Recommendation 2003-134

It is recommended that the CAA require offshore operators to review their landing procedures such that, after landing on moving helidecks, the helicopter's roll attitude, relative to the helideck, is neutral.

CAA Response

The CAA accepts this Recommendation.

A FODCOM will be published by 31 August 2004 requiring operators conducting offshore operations to review their landing procedures such that, after landing on moving helidecks, the helicopter's roll attitude, relative to the helideck, is neutral.

CAA Status - Open

Recommendation 2003-135

It is recommended that UKOOA revise their Guidelines for the Management of Offshore Helideck Operations to include a requirement for significant changes in environmental conditions, particularly wind speed and relative wind direction, to be communicated to the pilot of a helicopter when parked, with rotors turning, on a helideck.

CAA Response

This Recommendation is not addressed to the CAA.

The CAA understands that UKOOA proposes to form a new group, replacing its Aircraft Committee, to deal with offshore matters. This group will consist of representatives of the UK CAA, NATS, UKOOA and the major UK offshore operators. The Norwegian CAA and the Norwegian Offshore Operators Association may be invited to become full time members at a later date.

The first meeting of the new group is planned for September/October 2004: unless plans change, the UK CAA will bring this Safety Recommendation to the attention of the group.

CAA Status - Closed

Recommendation 2003-136

It is recommended that UKOOA should include in its Guidelines for the Management of Offshore Operations a requirement that, following an accident or incident (regardless of whether or not it involved a helicopter at the time), operators of vessels, Mobile Offshore Drilling Units (MODUs) and fixed installations should consider in their subsequent installation safety investigations the potential safety implications for helicopter operations on helidecks.

CAA Response

This Recommendation is not addressed to the CAA.

The CAA understands that UKOOA proposes to form a new group, replacing its Aircraft Committee, to deal with offshore matters. This group will consist of representatives of the UK CAA, NATS, UKOOA and the major UK offshore operators. The Norwegian CAA and the Norwegian Offshore Operators Association may be invited to become full time members at a later date.

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CAA Status - Closed