AIRCRAFT ACCIDENT REPORT No 2/93

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REPORT ON THE ACCIDENT TO AS 332L, G-TIGH, NEAR CORMORANT 'A' PLATFORM, EAST SHETLAND BASIN ON 14 MARCH 1992

The accident occurred at night during a shuttle of personnel from an oil production platform to a nearby accommodation 'Flotel'. Weather conditions were severe with winds gusting up to 55 kt, snow showers and very rough seas. However, the helicopter was being operated within its specified wind limits. With 15 passengers and two crew on board, the helicopter lifted from the Cormorant 'A' helideck, transitioned forwards and almost immediately began a right turn towards the Flotel 'Safe Supporter' located some 200 metres to the east north east. Climbing to a height of 250 feet, whilst turning downwind, the handling pilot, who was also the aircraft commander, reduced power and raised the nose of the helicopter such that the airspeed reduced to zero and a rate of descent built up. Once he was aware of the descent, which was also advised by his co-pilot and the Automatic Voice Alerting Device, he applied full power but the descent could not be arrested before the helicopter struck the sea which was very rough with waves heights up to 11 metres.

The helicopter rolled onto its right side before inverting and sinking within a minute or two. All but five of the occupants managed to escape from the helicopter before it sank. Of the twelve survivors in the sea, only six were recovered alive; the others perished in the hostile sea environment, some of them having survived for a considerable time. The rescue operation, using ships and helicopters, began almost at once but was severely hampered by the conditions. The wreckage of the helicopter and its Combined Voice and Flight Data Recorder were recovered some 30 hours later.

The report concludes that the accident occurred as a result of the following factors:

a. The handling pilot's failure to recognise the rapidly changing relationship between airspeed and ground speed which is a fundamental problem associated with turning downwind in significant wind strengths.

b. The commander, who was the handling pilot at the time, shortly after take off inadvertently allowed the airspeed and then the height to decrease whilst turning away from a strong gusting wind.

c. Despite the application of maximum power, the helicopter was incapable of arresting its established descent within the height available. Incipient vortex ring and down draughts may have contributed to this, as may the height of the wave crests.

d. Several human factors, including possibly some fatigue and frustration, exacerbated by a demanding flying programme for which the commander was managerially responsible, may have degraded the crew's performance to an extent that the normal safeguards of two crew operation failed.

The report contains eleven Safety Recommendations covering the following topics:

a. Operations; cockpit workload; procedures for reporting unstable deck limits without ambiguity; revision of the Automatic Voice Alerting Device fixed height warning; greater emphasis on human factors within the industry.

b. Airworthiness: automatic inflation of emergency hull flotation equipment; the ability to jettison the cabin doors of AS 332L helicopters when not upright; a re-assessment of survival aspects using an integrated systems approach, improved sharing of operating experience between civil and military authorities.

c. Search and rescue; the determination of weather limits for helicopter operations in which search and rescue operations are likely to be successful; the best search and rescue co-ordinating agency for aircraft accidents at sea; standardisation of SAR crewmen's head protection.