Aviation Safety Investigation Report 199000587

Hughes 269-C

17 May 1990

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

This accident was not the subject of an on-scene investigation.

Occurrence Number: 199000587 **Occurrence Type:** Accident
Location: 50 km SE Papunya NT
Date: 17 May 1990 **Time:** 1500
Highest Injury Level: Nil
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	1	1
Ground	0	0	0	-
Passenger	0	0	0	1
Total	**0**	**0**	**0**	**2**

Aircraft Details: Hughes 269-C
Registration: VH-HFU
Serial Number: 900955
Operation Type: Aerial Work
Damage Level: Substantial
Departure Point: Tylers Pass NT
Departure Time: 1415
Destination: Glen Helen Lodge NT

Approved for Release: 10th December 1990

Circumstances:

The pilot was making an approach to a cathode protection point on the pipeline to set down the engineer. The selected alighting point was on the slope of a saddle and the aircraft descended until the right skid was on the ground. As he lowered the collective to rest the left skid, he felt that the slope was excessive for a landing. Accordingly, he flew the helicopter up to an in-ground-effect (IGE) hover at about four to five feet and made a left pedal turn through about 90 degrees to move to a more level site further downhill. Seconds later after starting to hover-taxi, the pilot reported a shudder and noticed that the main rotor RPM was decreasing. Despite the introduction of power without collective input, the helicopter continued to descend. The pilot was unable to prevent the helicopter touching down and, after a series of skips and touches, the helicopter crashed in a nose-down attitude and came to rest on its right side. Both occupants exited without assistance through the pilot's side door. The pilot later reported that he felt the throttle travel to its full limit and believed that he was not getting the full power output from the engine. Subsequent engineering investigation of the aircraft did not reveal any anomalies or faults that could have contributed to the accident. Further investigation indicated that the pilot had had a poor night's sleep due to apprehension about the forthcoming tasks for the day. In addition, he had been concerned about family matters due to his unaccompanied move to gain employment. At the time of the accident he had been flying for about seven hours. The nature of the operation undertaken with frequent landings at difficult sites is conducive to skill fatigue. Skill fatigue is defined as the deterioration in performance caused by work that demands persistent concentration and a high degree of skill. It is an insidious phenomenon associated with failure of memory, judgement, integrating ability and presence of mind. Its effects may occur in conjunction with, and be accentuated by, other factors such as sleep loss. The prevailing conditions at the site chosen for landing were such that the helicopter was facing downwind after the completion of the pedal turn and was in a high power and weight configuration. It is possible

that at some stage during the turn the main rotor rpm drooped. The pilot did not become aware that the rotor was in an overpitched condition until the rotor rpm had drooped so low that full throttle would not have been sufficient to prevent ground contact. The nature of the terrain was such that a safe landing was not possible under the prevailing conditions.

Significant Factors:

The following factors were considered relevant to the development of the accident

1. The pilot was probably suffering from skill fatigue.

2. The pilot did not realise that he was close to the limits of operation of the helicopter under the prevailing conditions.

3. The pilot probably overpitched the rotors at an height insuffucient for recovery in an attempt to regain control of the helicopter.

4. The terrain was such that a safe landing was not possible.

Reccomendations:

1. That the Bureau of Air Safety Investigation and the Civil Aviation Authority prominently publish the circumstances and causes of this accident for the education of helicopter pilots.