



PRELIMINARY REPORT

AIC 22 - 1003

SIL Aviation Services

P2-SIL

BELL 206 L3

Tailrotor Strike during take off

Aiyura National High School

Eastern Highlands Province

PAPUA NEW GUINEA



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ABOUT THE AIC

The Accident Investigation Commission (AIC) is an independent statutory agency within Papua New Guinea (PNG). The AIC is governed by a Commission and is entirely separate from the judiciary, transport regulators, policy makers and service providers. The AIC's function is to improve safety and public confidence in the aviation mode of transport through excellence in: independent investigation of aviation accidents and other safety occurrences within the aviation system; safety data recording and analysis; and fostering safety awareness, knowledge and action.

The AIC is responsible for investigating accidents and other transport safety matters involving civil aviation, in PNG, as well as participating in overseas investigations involving PNG registered aircraft.

A primary concern is the safety of commercial transport, with regard to fare-paying passenger operations.

The AIC performs its functions in accordance with the provisions of the PNG Civil Aviation Act 2000 (as amended), and the Commissions of Inquiry Act 1951 and Annex 13 to the Convention on International Civil Aviation.

The object of a safety investigation is to identify and reduce safety-related risk. AIC investigations determine and communicate the safety factors related to the transport safety matter being investigated.

On 5 October 2022 at 10:15 local time (00:15 UTC), the AIC was notified by CASA PNG about an occurrence which had occurred on 4 October 2022 at 15:10 local time (05:10 UTC). The occurrence involved a Bell 206 L3 helicopter owned and operated by the Summer Institute of Linguistics (SIL) Aviation. The AIC immediately began gathering information pertinent to the occurrence and commenced the investigation. A team of investigators were dispatched to perform on-site activities.

This Preliminary Aircraft Accident Investigation Report was produced by the AIC, and contains facts known to the AIC before the official release date. It is released by the Commission in accordance with Para 7.1 of ICAO Annex 13. The report is also publicly available on the AIC website: <https://www.aic.gov.pg/index.php/investigation>.

The report is based on the initial investigation carried out by the AIC in accordance with Papua New Guinea Civil Aviation Act 2000 (as amended), Chapter 31 of the Commissions of Inquiry Act, Annex 13 to the Convention on International Civil Aviation, and the PNG AIC Investigation Policy and Procedures Manual. It contains factual information. Analysis of that information, findings and contributing (causal) factors, other factors, safety actions, and safety recommendations are reserved for the Final Report.

The sole objective of the investigation and the Preliminary Report is the AIC's obligation to the Convention on International Civil Aviation and in accordance with ICAO Annex 13, and thereby promote aviation safety. (Reference: ICAO Annex 13, Chapter 7). Readers are advised that in accordance with Section 219 of the Civil Aviation Act 2000 (as amended) and Annex 13, it is not the purpose of the Commission's aircraft accident investigation to apportion blame or liability. Fact based statements in the report should not be interpreted as apportioning blame.

Consequently, AIC reports are confined to matters of safety significance and may be misleading if used for any other purpose.



Captain Aria Bouraga, MBE.

Acting Chief Commissioner

03 November 2022

Occurrence details

On 4 October 2022, at about 15:10 local, (05:10 UTC ¹) a Bell 206 L3 helicopter, registered P2-SIL, owned and operated by Summer Institute of Linguistics (SIL) Aviation, was conducting a VFR² charter flight from Aiyura National School, in Ukarumpa, Eastern Highlands Province to Nadzab Airport, Lae, Morobe Province, Papua New Guinea when, during take-off, the tail rotor struck a power line. The helicopter was subsequently landed without further event.

There were 6 persons on board: one pilot and five passengers.

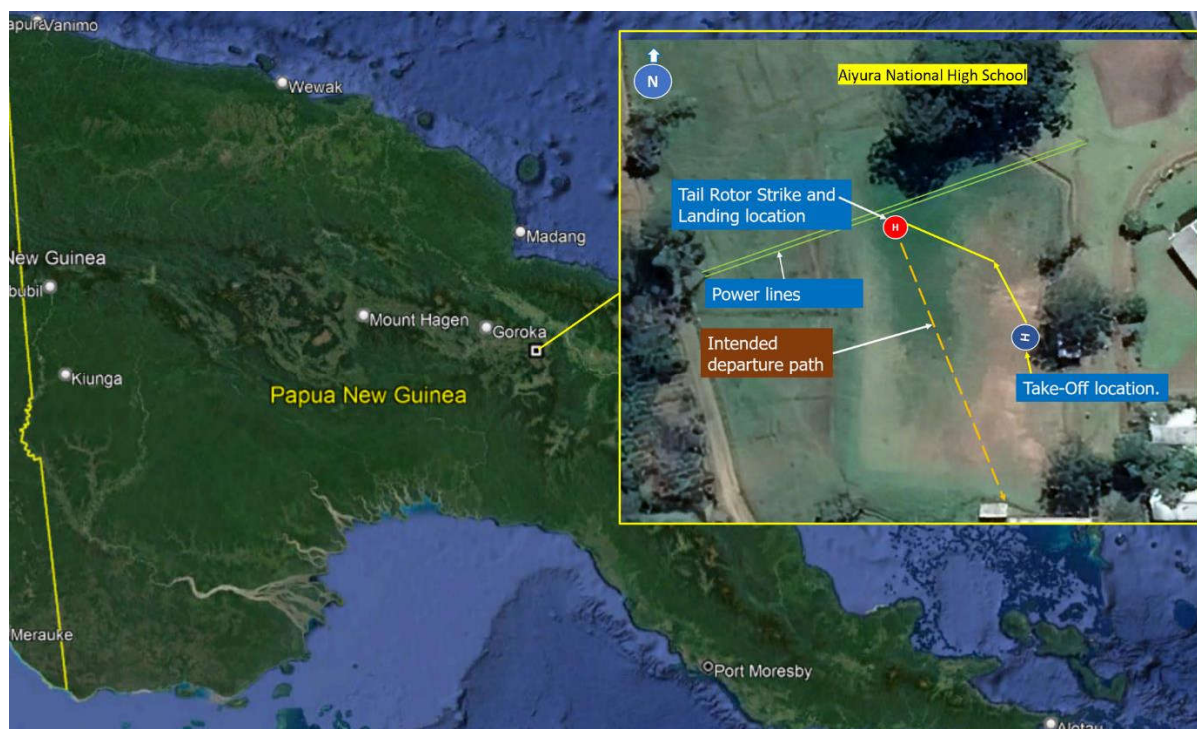


Figure 1. Figure 1: P2-SIL take off area.

The V2-Track³ recorded data shows that the helicopter lifted off to a height of 6m, turned left and began tracking towards the northwest side of the field. As the helicopter reached the edge of the open field, the pilot commenced a turn toward the Southwest, the pilot's intended departure track. The pilot stated that during this turn, he felt a sudden strong vibration through the antitorque pedals and cyclic pitch control. He stated that he suspected that the tail rotor had struck an obstacle. He subsequently reduced power and landed the helicopter.

¹ The 24-hour clock, in Coordinated Universal Time (UTC), is used in this report to describe the local time as specific events occurred. Local time in the area of the accident, Papua New Guinea Time (Pacific/Port Moresby Time) is UTC +10 hours

² Visual Flight Rules

³ Tracking system that transmits a combination of parameters (such as location, time, altitude, speed, rate of climb, heading and distance) back to the website and mobile application for real-time viewing by end users. It transmits data every 15 seconds.

He recalled checking the passengers after shutting down the engines, to ensure they were safe and further assisted them to exit the helicopter safely. He subsequently inspected the helicopter and found damage to the tail rotor blades. A power line was also observed about 3m from the helicopter's resting position, running generally across the edge of the field at a height of about 6m.

It was therefore concluded that the helicopter tail rotor blade had struck a power line.

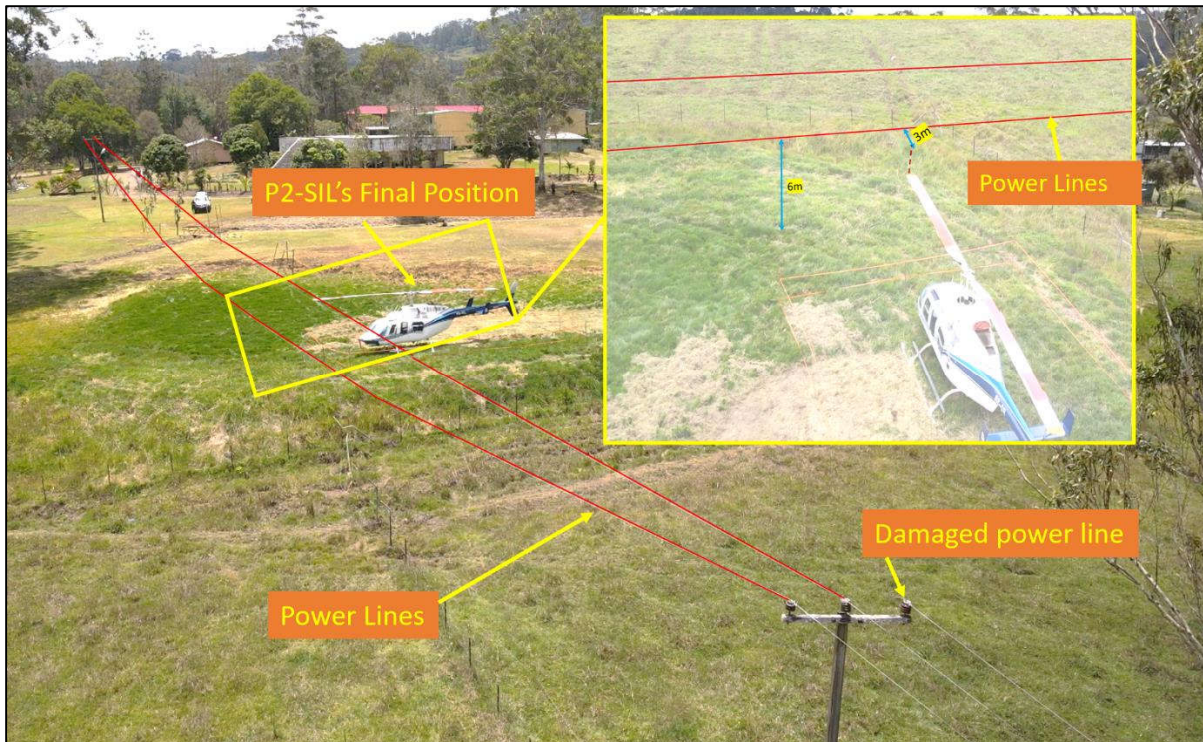


Figure 2. Obstacles and Final position of P2-SIL.



Figure 3. Damage sustained to the tail rotor blade.

AIC Comment

The investigation is continuing and will try to establish how, and why this tail rotor strike occurred. The investigation will include environmental, operational, organizational and technical aspects and other areas as applicable.

The investigation analysis and findings will be included in the Final Report.

Safety Actions

At the time of the issue of this Preliminary report, no Safety Actions have been taken.

Recommendations

At the time of the issue of this Preliminary report, no Safety Recommendations have been issued by the AIC.

General Details

Date and time:	4 October 2022 05:10 UTC	
Occurrence category:	Accident	
Primary occurrence type:	Tail rotor strike during take-off	
Location:	Aiyura National School, Eastern Highlands Province	
	Latitude: 6°20'29.48"S	Longitude: 145°53'37.24"

Crew details

Nationality	American
Gender	Male
Age	45
Licence type	CPL (Helicopter)
Total hours	3281.5
Total hours in Command	3195.8
Total hours on type	2534.7

Aircraft Details

Aircraft manufacturer and model:	Bell Helicopters, Bell 206 L3	
Registration:	P2- SIL	
Serial number:	51511	
Engine manufacturer and model	Rolls Royce Corporation, 250-C30P	
Engine serial number	CAE-895211	
Main Rotor Blades Manufacturer	Bell Helicopters	
Main Rotor Blade 1 and 2 Serial Numbers	BH 215656 and A 8853 respectively	
Type of operation:	Charter flight	
Persons on board:	Crew: 1 Pilot	Passengers: 5
Injuries:	Crew: Nil	Passengers: Nil
Damage	Substantial damage to tail rotor blade edge and tail rotor gearbox mounting structure.	