



FINAL REPORT

AIC 15-1003

**PAPUA NEW GUINEA
ACCIDENT INVESTIGATION COMMISSION
SHORT SUMMARY REPORT**

Frabelle (PNG) Ltd

RP-C5058

Robinson 44/Clipper

Wire strike

Bumbu River, Lae

PAPUA NEW GUINEA

22 May 2015

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 particular 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), Civil Aviation Rules 2004 (as amended), and the Commissions of Inquiry Act 1951 (as amended), and in accordance with 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.

Readers are advised that in accordance with Annex 13 to the Convention on International Civil Aviation, it is not the purpose of an AIC aircraft accident investigation to apportion blame or liability. The sole objective of the investigation and the Final Report is the prevention of accidents and incidents. (Reference: ICAO Annex 13, Chapter 3, paragraph 3.1.)

However, it is recognised that an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the AIC endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why it happened, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.

Collision with wire involving a Robinson R44/Clipper, RP-C5058

Occurrence details

The Philippines registered Robinson R44/Clipper helicopter, operated by Frabelle (PNG) Ltd., had recently undergone maintenance to replace all six cylinders on the engine, at the operator's land base in Lae, Morobe Province, Papua New Guinea. The helicopter was normally ship based, and was used for tuna fish spotting. It was substantially damaged when it struck a wire while low flying along the Bumbu River near Lae, on 22 May 2015.

Flight on 21 May 2015 (Recorded on the GPS)

The investigator in charge retrieved the Global Positioning System (GPS) unit from the helicopter and downloaded the last recorded data of the helicopter's track. On 21 May 2015 the pilot, a Philippines citizen, flew the helicopter from the Lae wharf area west to the mouth of the Markham River. It then tracked northwest along the river past the Markham Bridge to almost abeam Lake Wanum, before turning right and tracking to the Atzra Range and then followed the Highlands Highway towards Lae.

Approaching Lae it turned left and tracked to near Igam Barracks and made a right turn and tracked south to the mouth of the Bumbu River. During the flight the helicopter entered Nadzab controlled airspace without an air traffic control clearance. The flight lasted 29 minutes and covered 25.4 nm. The investigator checked the GPS settings and confirmed that the date/time settings were accurate.



Figure 1: GPS recorded data for 21 May 2015

Flight on 22 May 2015 (Not recorded on the GPS)

The pilot informed the investigator that on 22 May 2015, after successful ground running checks, he took the helicopter for a proving test flight. He reported that his plan was to complete two one-hour test flights; one hour in the morning, and one hour in the afternoon. He said that a practise autorotation was also included in the planned test flight.

After departing from the company premises in the Lae wharf area at 2345 UTC¹ for the first of these test flights, he tracked east, coastal to the mouth of the Bumbu River at 500 ft. There were four persons on board; the pilot and three passengers.

When asked during the interview why he chose to fly at five hundred feet, he stated he wanted to remain clear of the Lae based helicopter's departing and arrival lanes. He stated that as they approached the mouth of the Bumbu River he initiated a climb to 1,000 ft and selected a sand bank on the river and manoeuvred the helicopter to set up for a practise autorotation. He commenced the autorotation from 1,000 ft above sea level, tracking from the coast towards the northwest.

The pilot described the procedure he used during the autorotation, which the investigator subsequently confirmed from the Robinson R44 Pilot's Operating Handbook. He said that he established the helicopter on decent at 70 knots. Approaching 500 ft he reintroduced power and at 200 feet he commenced flaring, but realised he was overshooting the planned touch down area. While the helicopter was passing through 100 ft on descent, the pilot applied full power and turned right towards the river to avoid crashing into houses on the west bank of the Bumbu River.

Neither the pilot nor the passengers saw the wire across the river until they flew into it at between 100 ft and 150 ft above sea level. The wire tore through the main-rotor mast cowling, severed and became wrapped around the top of the helicopter's main-rotor mast, dragging the helicopter into the river.

The pilot said the he did not use the GPS for the local flight on 22 May 2015.



Figure 2: Wire Strike on the main rotor mast

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.



Figure 3: Accident Site

Approval from PNG Ports Corporation Ltd

The investigation found that the helicopter operator had received approval from the PNG Ports Corporation Limited (Permit No. PO9-PH-BT-0004/15), to ‘undertake *Helicopter-Ship operation between the vessel Purple Beauty 888 and helicopter R44/Clipper -1 on 21 May 2015, within the declared port of Lae at the Main Wharf*’. Prior to the accident the helicopter had been flown to the operator’s land base, in the Lae ports wharf area. At the time of the accident the helicopter was operating outside the Lae ports area, below 500 ft, and over the built up area of the eastern suburbs of Lae. The operator had not obtained approval to operate over the built up area from, and back to the Lae wharf area below 500 ft. The pilot was not authorised to conduct an engine test flight and practice autorotation with passengers on board.

AIC comment

Pilots are reminded that while low flying may often be necessary and appropriate in remote area operations, when flying over the built up area of towns in PNG the minimum altitude is 1,500 feet unless landing or taking off.

Recommendation number AIC 15-R04/15-1003 to the Civil Aviation Safety Authority of PNG.

The Accident Investigation Commission recommends that the Civil Aviation Safety Authority of PNG should bring this report to the attention of the Civil Aviation Authority of the Philippines.

General details

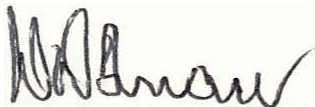
Date and time:	22 May 2015 2330 UTC	
Occurrence category:	Accident	
Primary occurrence type:	Wire strike	
Location:	Bumbu River, 100 metres from the river mouth.	
	Latitude: 06°44'12"S	Longitude: 147°13'68"E

Crew details

Nationality	Philippines
Licence type	Commercial (Philippines)
Licence number	110562
Total hours	2,102.20
Total hours on type	691

Aircraft details

Helicopter manufacturer and model:	Robinson Helicopter Company R44 Clipper	
Registration:	RP-C5058	
Serial number:	2346	
Engine manufacturer and model	Lycoming IO-540	
Engine serial number	L-27471-40E	
Type of operation:	Private	
Persons on board:	Crew: 1	Passengers:3
Injuries:	Crew: 1 Minor	Passengers:1 Serious; 2 Minor
Damage	Substantial	

Approved


David Inau
CEO
Accident Investigation Commission