

LIMITED ACCIDENT INVESTIGATION REPORT

Reference Number	CA18/2/3/10132					
Classification	Accident	Date	28 February 2022	Time	1503Z	
Type of Operation	Remotely Piloted Aircraft (Part 101)					
Location						
Place	Rooikransberg Farm, McGregor near Greyton in the Western Cape Province					
GPS Co-ordinates	Latitude	S34°0'36.62"	Longitude	E019°42'55.40"	Elevation	5390 feet
Aircraft Information						
Registration	ZT-UEE					
Model/Make	DJI Phantom 4 Advanced (Serial Number: OHA Q0A 21125)					
Damage to Aircraft	Substantial		Total Aircraft Hours	70.8		
Pilot-in-command						
Licence Type	Remote Pilot Licence	Gender	Male	Age	35	
Licence Valid	Yes					
Total Hours on Type	83.4		Total Flying Hours	83.4		
What Happened						
<p>On 28 January 2022, a DJI Phantom 4 Advanced remotely piloted aircraft (drone) with registration ZT-UEE was operated for security surveillance by a drone pilot at Rooikransberg Farm in McGregor, near Greyton in the Western Cape Province. The operation was conducted under visual line of sight (VLOS) by day and under the provisions of Part 101 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot stated that the drone took off towards north-east at 1459Z with a 100% battery life to conduct the last surveillance for the day. The drone flew for 2 kilometres (km) after which it collided with a treetop whilst on its way back to the take-off point. The height of the tree was 62 feet. The battery life was at 87% when the drone collided with a treetop. The drone sustained damage to all four rotor blades as well as one motor mounting arm which broke off. The pilot stated that the drone collided with the tree because he lost concentration and could not explain what caused it.</p>						



Figure 1: Photo of the damaged drone. (Source: Operator)



Figure 2: The tree with which the drone collided. (Source: Pilot)

What was found:

- The pilot was issued a Remote Pilot Licence (RPL) on 12 June 2018 with an expiry date of 31 July 2022. A Visual Line of Sight (VLOS) rating was endorsed on his licence. His Class 4 medical certificate was issued on 12 September 2017 with an expiry date of 30 September 2022 with no restrictions.
- The last inspection carried out on the drone prior to the accident flight was on 12 January 2022 at 61.79 hours.
- The Rooikransberg Farm owner granted the operator permission to carry out airborne operations from 28 January 2022 to 30 January 2022.
- The operator was issued a Remotely Piloted Aircraft System (RPAS) certificate on 25 October 2021 with an expiry date of 31 October 2022.
- Fine weather conditions prevailed at the time of the accident.

Probable cause

The drone collided with a treetop during a return flight to base because the pilot lost concentration.

Safety Message and/or Safety Recommendation/s

None.

Purpose of the Investigation

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and **not to apportion blame or liability**.*

About this Report

Decisions regarding whether to investigate, 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, no investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar accident.

This report provides an opportunity to share safety message/s in the absence of an investigation.

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Disclaimer

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This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**