



**Australian Government**

**Australian Transport Safety Bureau**

# Wirestrike and collision with terrain involving Robinson R44, VH-HNF

69 km south-east of Hay Airport (Steam Plains), New South Wales, on 31 July 2020

**ATSB Transport Safety Report**  
Aviation Occurrence Investigation  
AO-2020-040  
Preliminary – 31 March 2021

Released in accordance with section 26 of the *Transport Safety Investigation Act 2003*

#### Publishing information

**Published by:** Australian Transport Safety Bureau  
**Postal address:** PO Box 967, Civic Square ACT 2608  
**Office:** 62 Northbourne Avenue Canberra, ACT 2601  
**Telephone:** 1800 020 616, from overseas +61 2 6257 2463  
Accident and incident notification: 1800 011 034 (24 hours)  
**Email:** [atsbinfo@atsb.gov.au](mailto:atsbinfo@atsb.gov.au)  
**Website:** [www.atsb.gov.au](http://www.atsb.gov.au)

© Commonwealth of Australia 2021



#### Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia.

#### Creative Commons licence

With the exception of the Coat of Arms, ATSB logo, and photos and graphics in which a third party holds copyright, this publication is licensed under a Creative Commons Attribution 3.0 Australia licence.

Creative Commons Attribution 3.0 Australia Licence is a standard form licence agreement that allows you to copy, distribute, transmit and adapt this publication provided that you attribute the work.

The ATSB's preference is that you attribute this publication (and any material sourced from it) using the following wording: *Source:* Australian Transport Safety Bureau

Copyright in material obtained from other agencies, private individuals or organisations, belongs to those agencies, individuals or organisations. Where you want to use their material you will need to contact them directly.

#### Addendum

Page	Change	Date

# Preliminary report

This preliminary report details factual information established in the investigation's early evidence collection phase, and has been prepared to provide timely information to the industry and public. Preliminary reports contain no analysis or findings, which will be detailed in the investigation's final report. The information contained in this preliminary report is released in accordance with section 25 of the *Transport Safety Investigation Act 2003*.

## The occurrence

On 31 July 2020, the pilot of a Robinson R44 Raven 1 helicopter, registered VH-HNF and operated by Riverina Helicopters, was preparing to conduct aerial weed spraying at Steam Plains, 69 km south-east of Hay Airport, New South Wales.

Prior to commencing the day's flying, the pilot briefed with the helicopter owner/operator, who was performing the role of ground crew and responsible for loading the helicopter with chemical. The briefing included a review of the day's tasking, maps of the property and hazards associated with the operation. The identified hazards included a 19.1 kV single wire earth return powerline, which crossed the property fence line about 5 m above the ground. The powerline had been marked on the pilot's map during initial planning with the landowner 2 days prior.

The ground crew then loaded the helicopter with chemical from a centrally-located vehicle. According to recorded GPS data from the helicopter, after loading, the pilot flew the helicopter to the property boundary to spray along the fence line, 2.5-5 m above the ground, before returning to the loader (Figure 1). The pilot sprayed four loads over an 80-minute period and departed with the fifth load at about 1050 Eastern Standard Time.<sup>1</sup>

The GPS data showed that the pilot flew the helicopter to the property boundary and began spraying the fifth load. About 350 m before reaching the position where the previously-identified powerline crossed the fence line, the pilot manoeuvred the helicopter to climb over an area of trees 12-15 m high, before descending to continue spraying. During the descent, the helicopter struck the powerline. The electricity provider reported that the fault to the powerline occurred at 1057. This was consistent with the time of the last recorded GPS position, about 300 m prior to the powerline.

The helicopter subsequently collided with terrain about 120 m beyond the powerline, resulting in fatal injuries to the pilot. The helicopter was substantially damaged.

---

<sup>1</sup> Eastern Standard Time (EST): Coordinated Universal Time (UTC) + 10 hours.

Figure 1: VH-HNF flight path for fifth spray load



Source: Google Earth and GPS data, annotated by the ATSB

### Site and wreckage examination

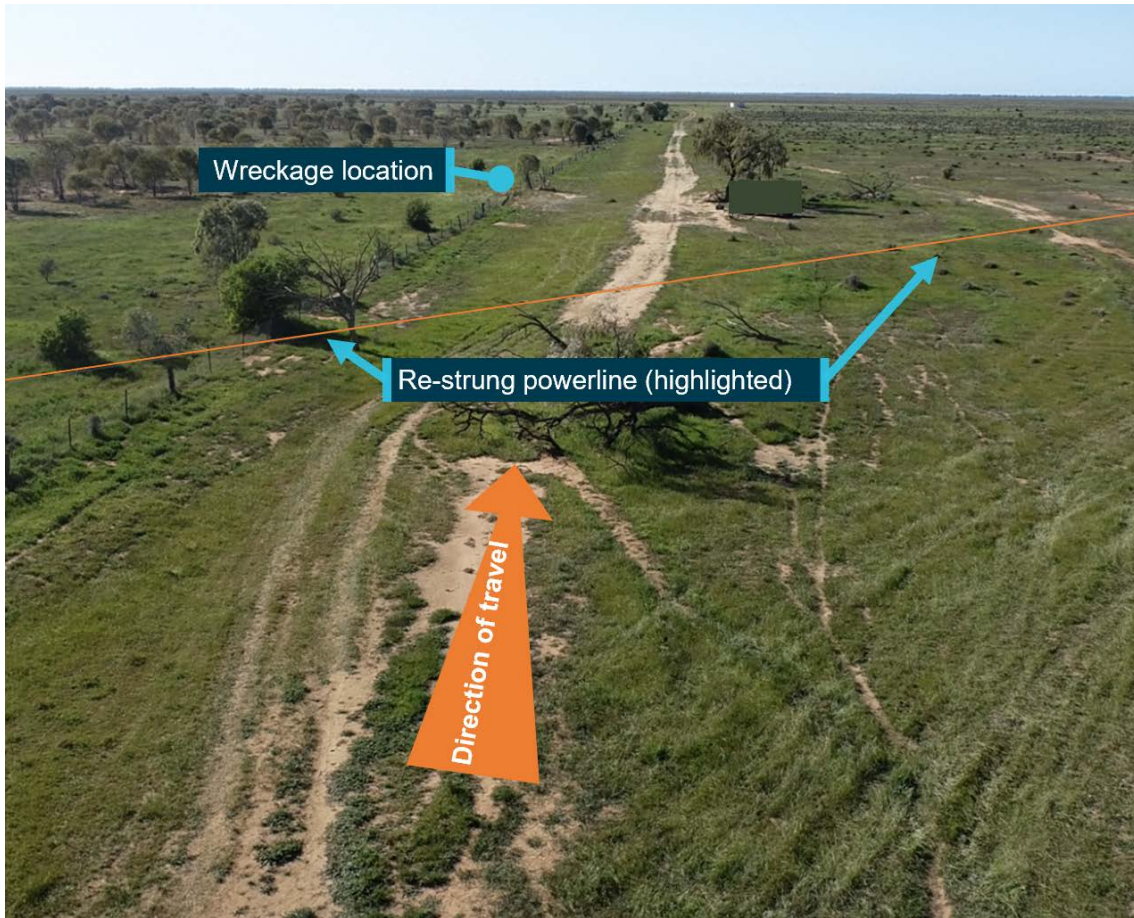
The accident site was located in flat and open farmland (Figure 2), about 7 km north-east of the loading vehicle. The ATSB conducted an examination of the site and wreckage, and identified:

- the main wreckage was located about 120 m beyond the powerline in the direction of travel
- the powerline remained entangled in the wreckage, with evidence of wire contact on the front of the left skid
- significant structural deformation, consistent with heavy impact on the left side of the helicopter
- the helicopter was fitted with bladder fuel tanks, which had ruptured but there was no fire
- flight control continuity was established



- there were no pre-existing issues identified with the helicopter that would have precluded normal operation.

**Figure 2: Drone image of accident location, taken at 1028 on 4 August 2020**



Source: ATSB

### Further investigation

The investigation is continuing and will include:

- review of pilot qualifications, experience and medical information
- review of operational procedures
- review of environmental conditions
- consideration of powerline visibility
- examination of survivability aspects
- review of similar occurrences.

Should a critical safety issue be identified during the course of the investigation, the ATSB will immediately notify relevant parties so appropriate and timely safety action can be taken.

A final report will be released at the conclusion of the investigation.

# General details

## Occurrence details

Date and time:	31 July 2020 – 1057 EST	
Occurrence category:	Accident	
Primary occurrence type:	Wirestrike	
Location:	69 km south-east of Hay Airport, New South Wales (Steam Plains)	
	Latitude: 35° 4.07' S	Longitude: 145° 12.05' E

## Aircraft details

Manufacturer and model:	Robinson Helicopter Company R44 Raven 1	
Registration:	VH-HNF	
Operator:	Riverina Rotor Work operating as Riverina Helicopters	
Serial number:	2524	
Type of operation:	Aerial work – Aerial agriculture	
Activity:	General aviation – Aerial work – Agricultural spraying	
Departure:	Steam Plains, New South Wales	
Destination:	Steam Plains, New South Wales	
Persons on board:	Crew – 1	Passengers – 0
Injuries:	Crew – 1 (fatal)	Passengers – 0
Aircraft damage:	Substantial	