

Australian Government Australian Transport Safety Bureau

# Separation issue between a Robinson R44, VH-YDK, and a Bell 412, VH-EWA

Jandakot Airport, Western Australia, on 16 November 2014

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#### Addendum

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## Separation issue between a Robinson R44, VH-YDK, and a Bell 412, VH-EWA

## What happened

On 16 November 2014, a Robinson R44 helicopter, registered VH-YDK (YDK), was approaching Jandakot Airport following a charter flight from Rottnest Island, Western Australia, with a pilot and three passengers on board. At about 1348 Western Standard Time, the pilot of YDK reported downwind on the Jandakot Tower frequency, and the Jandakot aerodrome controller (ADC) responded 'precinct, report on the ground'.<sup>1</sup> Runway 24 was the runway in use.

At about the same time, the pilot of a Bell 412 helicopter, registered VH-EWA (EWA), and callsign 'Rescue 65', prepared to conduct a rescue flight to Bunbury, Western Australia, with a crewman and paramedic on board.

As YDK turned onto final, at about 400 ft above ground level (AGL), the pilot of YDK sighted EWA outside its hangar with the rotors turning. He elected to continue the approach as he assumed that the pilot of EWA would sight YDK and remain stationary.

At about 1350, the pilot of EWA contacted the Jandakot Surface Movement Controller (SMC) on the Ground frequency, and stated 'request taxi to compass swing bay'. The SMC replied 'taxi to compass bay time 50 and a half and contact Tower 118.1 ready'. As the pilot commenced taxiing, the crewman, seated in the left front seat, sighted YDK at a height he estimated to be about 150 ft AGL and on an approach towards EWA. After sighting the helicopter, he directed the pilot of EWA to 'go forward' (Figure 1b). The pilot initially did not understand how a possible conflict could exist at that time and slowed to establish a hover to try and observe the other aircraft. The crewman repeated the call and the pilot commenced taxiing.



#### Figure 1: Sequence of events and approximate helicopter tracks Figure 1a Figure 1b

<sup>&</sup>lt;sup>1</sup> This was a standard instruction for helicopters landing in the precinct and entitled the helicopter to approach anywhere in the uncontrolled section (see Figure 2) and then advise air traffic control when on the ground.



Source: Google Earth

When at about 200 ft AGL,<sup>2</sup> the pilot of YDK observed EWA commence taxiing and he brought YDK into a hover over the trees at the edge of the precinct, about 100 m from EWA (Figure 1b). At about 1350, the pilot of YDK broadcast on the Tower frequency: 'Rescue 65, YDK just out your left hand window'. The pilot of EWA was still monitoring the Ground frequency and did not hear that call. The pilot of YDK did not receive a response. YDK then descended and passed behind EWA towards a landing on the middle of the grassed area (Figure 1c).

The pilot of EWA continued to taxi towards the compass swing bay, and as he turned the helicopter into the 240° direction approaching the bay, first sighted YDK which was then passing behind EWA and about 30 m away (Figure 1d).

About 30 seconds after YDK's broadcast to Rescue 65, the pilot of EWA broadcast on Tower frequency: 'ready compass swing bay parallel 24', ADC replied 'parallel runway 24 right compass swing bay report airborne', and Rescue 65 then reported 'airborne'.

YDK landed on the grass between the hangar and taxiway B.

#### Jandakot airport helicopter precinct

The 'helicopter precinct' (Figure 2) is located in the north-eastern section of Jandakot Airport. Due to buildings situated between the control tower and the precinct, all ground movements are uncontrolled, as the controllers have no visibility of taxiing aircraft in the precinct. The precinct is considered to be an apron area. Air traffic control (ATC) only provides take-off or landing clearances where they can see the aircraft.

<sup>&</sup>lt;sup>2</sup> Airservices Australia provided the radar data to the ATSB but the aircraft altitudes were not able to be accurately verified.



#### Figure 2: Jandakot Airport

Source: Google Earth

The standard instruction from the ADC for helicopters landing within the precinct was to report on the ground; for helicopters taking off from within the precinct, the standard instruction from SMC was to report on the tower frequency when ready for take-off. A clearance to the helicopter precinct entitled the helicopter to approach anywhere in the uncontrolled section. No specific clearance to land or taxi (or take off) was issued as the precinct was uncontrolled. The airspace above the precinct was contained within Jandakot Class D airspace and was therefore controlled during Tower hours.

There was no requirement for the SMC to advise the ADC that an aircraft was taxiing from the helicopter precinct to a taxiway nor was there any procedure for the ADC to advise SMC that an aircraft was approaching the uncontrolled apron (AIP GEN 3.4 page 56).<sup>3</sup>

The operator of YDK was the first general aviation helicopter organisation to move into the precinct. The airport management plan is to move all helicopter operations to the precinct. Most of the allocated lots have now been leased and construction is underway for the hangars. This will further increase the amount of helicopter traffic operating in the precinct and therefore the potential for conflict between helicopters operating without defined approach and departure points.

## **Pilot comments**

#### Pilot in command of VH-YDK

The pilot of YDK provided the following comments:

• He knew the pilot of EWA would be on Ground frequency not Tower when he called stating that he was out to the left of EWA, but he hoped to alert ADC of the potential conflict. He was unsure whether the SMC and ADC communicated regarding traffic in the precinct.

<sup>&</sup>lt;sup>3</sup> <u>www.airservicesaustralia.com/aip/current/aip/general.pdf</u>

- He thought EWA was going to stop taxiing as he observed its tail dip, but it then continued forwards.
- Most of the company pilots aim for the same landing areas: either the grass or the taxiway intersection, but there was no strict procedure in place.
- A designated helicopter landing site (HLS) would assist with separation but it would be preferable to have some flexibility to land at different sites rather than be restricted to the HLS for all take-offs and landings.
- He did not have the landing or navigation lights on.

#### Pilot in command of VH-EWA

The pilot of EWA provided the following comments:

- The helicopter was fitted with blackout curtains as mandatory equipment required for flight under the instrument flight rules. The curtains obscure the pilot's line of sight through the roof of the helicopter to aircraft operating above.
- The crewman was maintaining a more thorough lookout than normal, following a similar incident, 2 weeks prior.
- During the taxi, the pilot performs checks, which require a substantial amount of attention inside the helicopter.
- Having established procedures in place would benefit all helicopter operators in the precinct. If helicopters approached taxiway B, rather than the grass between the hangar and the taxiway, that would assist in maintaining adequate separation.
- More helicopter operations, including firebombers, will be moving to the precinct, increasing the potential for conflict if no specific approach or departure points are defined.
- There was the intent by the airport operator to make the compass swing bay an HLS, but this has not occurred and an alternative compass swing bay would be required.
- Creating two HLSs, such as one at the intersection of taxiway B and taxiway H, and the other at the compass swing bay, and designating one for approach and one for departures, would reduce the potential for conflict. Having a determined approach point makes the traffic flow orderly and predictable.
- Changing to Tower frequency, prior to taxiing, would provide less than 1 minute to communicate with other traffic on that frequency, or for ADC to give traffic information.

#### Jandakot Airport operator comments

The Jandokot Airport operator, Airservices Australia and the operators of EWA and YDK held two meetings in June and July 2013, 16 months prior to the incident. These meetings were held to determine operational procedures in the helicopter precinct. The discussion notes provided to the ATSB from the meetings included the following points:

- Because of buildings, air traffic controllers cannot see north-west of taxiway B and only 50% of the compass swing bay.
- Because controllers are not able to see operations within the new precinct, helicopters will need to position to a location that ATC can see for both departures and arrivals.
- To easily control the traffic there needs to be specific aiming points.
- The compass swing bay is used on a 'first come first served' basis, and can be occupied for up to 15 minutes by aircraft doing a compass swing. Jandakot Airport Holdings advised that it was possible for another compass swing bay to be built, so that the existing bay becomes solely a helipad. Jandakot Airport Holdings stated they could also look at marking the compass swing bay as a helipad.
- Operators would prefer to have separate pads for arrivals and departures. However, there was no suitable location for two pads that ATC would be able to see from the Tower. Arrivals could

be accommodated without a visual landing, but for the departure, ATC must be able to see the aircraft.

 As more rotary wing operators were expected to move progressively into the new precinct, the airport operator and Airservices committed to have further discussions with each of the operators to address any issues that arise.

## **Safety action**

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following proactive safety action in response to this occurrence.

## **Operator of VH-YDK**

As a result of this occurrence, the operator of VH-YDK has recommended all company pilots to aim for the intersection of taxiways B and H for arrivals, approaching along taxiway B. Departures are to be down taxiway B unless there are fixed wing aircraft on the taxiway, in which case the strip between the taxiway and runway is to be used.

The operator also advised that the area was not for the sole use of their helicopters and they have no control over other operators who land in the area. A published procedure or Tower instruction would be required to ensure all helicopters follow this approach.

## **Operator of VH-EWA**

The operator of VH-EWA has recommended company pilots change to Tower frequency prior to taxiing.

The operator of EWA reported that approach to the helicopter precinct should be via hover taxi from an established runway and then taxiway to eliminate conflict in the uncontrolled zone of the helicopter precinct. The operator will continue to liaise with Airservices and Jandakot Airport operator in an attempt to have this procedure implemented.

## Airservices Australia

Airservices Australia advised that responsibilities for apron management were being reviewed with CASA. The outcomes were to be communicated via an Aeronautical Information Circular (AIC) publication in 2015.

## Safety message

Alerted see-and-avoid has been shown to be far more effective than unalerted processes. In this incident, the pilots of the two helicopters were on different frequencies and operating in accordance with air traffic control requirements and did not hear any communications from each other. The helicopter precinct at Jandakot Airport is a unique environment, with airborne helicopters on Tower frequency and those taxiing 'uncontrolled' and on Ground frequency. Adding to the complexity, is that there are no designated helicopter landing sites within the precinct and pilots can taxi, take-off and approach and land anywhere in the precinct. This combination of factors requires pilots to make the mandatory radio calls, maintain a good lookout and to taxi, depart and approach the area by the most predictable routes to assist others in sighting them.

## **General details**

### Occurrence details

Date and time:	16 November 2014 – 1351 WST		
Occurrence category:	Incident		
Primary occurrence type:	Separation issue		
Location:	Jandakot Airport, Western Australia		
	Latitude: 32° 05.85' S	Longitude: 115° 52.87' E	

## Helicopter details: VH-YDK

Manufacturer and model:	Robinson Helicopter Company R44 II		
Registration:	VH-YDK		
Serial number:	12386		
Type of operation:	Charter – passenger		
Persons on board:	Crew – 1	Passengers – 3	
Injuries:	Crew – Nil	Passengers – Nil	
Damage:	Nil		

## Helicopter details: VH-EWA

Manufacturer and model:	Bell Helicopter Company 412EP, VH-EWA		
Registration:	VH-EWA		
Serial number:	36312		
Type of operation:	Aerial work – EMS		
Persons on board:	Crew – 3	Passengers – Nil	
Injuries:	Crew – Nil	Passengers – Nil	
Damage:	Nil		

## About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

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

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and

findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, 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.