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Australian Transport Safety Bureau

Ground proximity event between a Boeing 737, VH-VZA and a security vehicle

Sydney Airport, New South Wales, 26 August 2013

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Addendum

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What happened

On 26 August 2013, a Qantas Airways Boeing 737 aircraft, registered VH-VZA (VZA) (Figure 4), was completing a scheduled passenger flight from Cairns, Queensland to Sydney, New South Wales.

After landing, at about 2010 Eastern Standard Time,[1] VZA was cleared by air traffic control (ATC) to taxi to Bay 6 of the Domestic 1 (DOM 1) apron[2] area at Sydney Airport, via taxiway 'Bravo' (B) then 'Bravo 2' (B2) (Figure 3).

At about 2020, as the aircraft was taxiing along B2 toward the parking area, VZA was instructed by ATC to pass behind another aircraft vacating DOM 1. To reduce the light shining into the vacating crew's cockpit, the first officer switched off the right runway turn-off light[3]. The captain, who was focused on taxiing the aircraft, was not aware that the turn-off light had been switched off.

At about the same time, the captain observed the lights of a white security vehicle[4] (Figure 1) approaching from about 50 m away and about 90° to the right of the aircraft. He estimated the speed of the vehicle was about 30km/h, about the same as VZA's taxi speed.

Figure 1: Security vehicle

Source: Security operator

Figure 2: Vehicle GIVEWAY sign on airside road

Source: Sydney Airport Drivers Pocketbook

The captain thought the vehicle would continue along the airside road[5] and turn right behind the aircraft parked in the bays, remaining clear of VZA. However, as the car continued in a northerly direction across the intersection of the airside road and taxiway, at a similar speed, the captain believed it was on a collision course with VZA. Realising the vehicle driver had not seen VZA, the captain immediately stopped the aircraft and went to flash the right turn-off light at the driver, but

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1 Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

2 The apron area is that part of the airport used for boarding or disembarking passengers, loading and unloading cargo, aircraft refuelling and maintenance.

3 Runway turnoff lights are located on the leading edge of the wing root.

4 Sydney Airport Corporation Limited advised that the security company vehicles do not go onto the manoeuvring area, so are not fitted with VeeLo. VeeLo is a vehicle locator that can be tracked and identified on ATC tower displays

5 The airside road remains clear of the aircraft manoeuvring area, except where the road, marked as a road, crosses a taxiway.

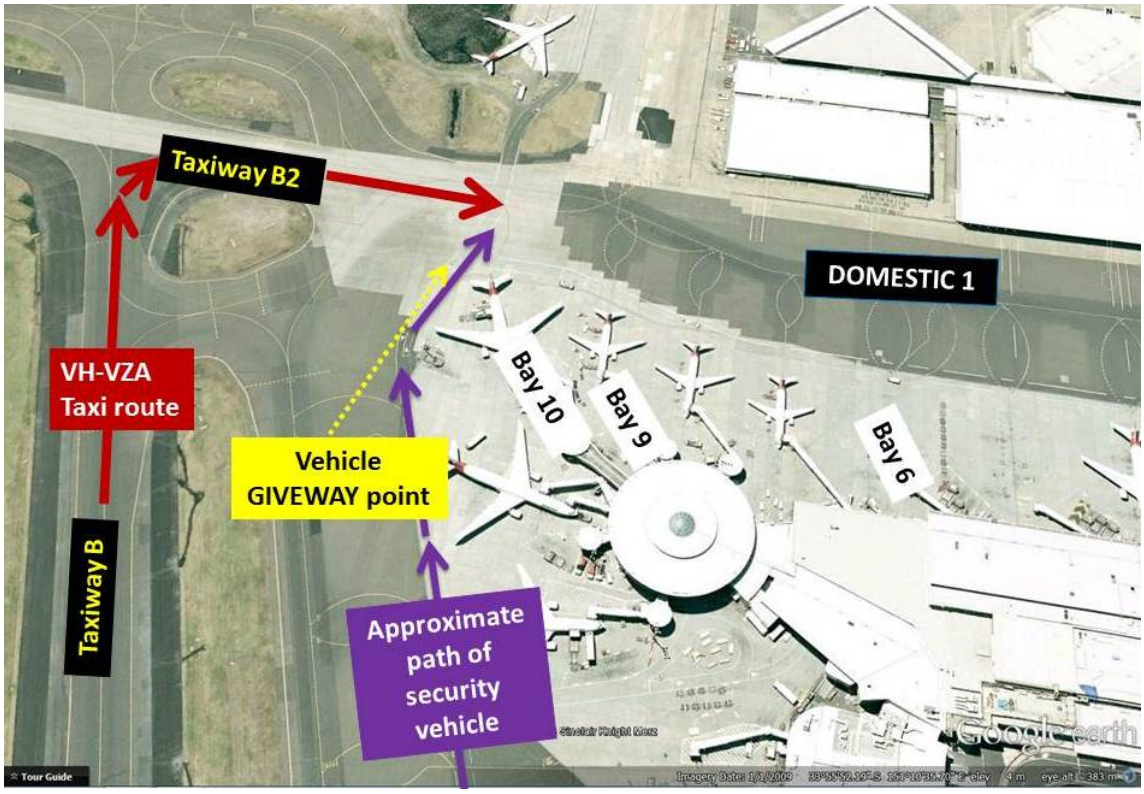
found it in the off position, so turned it back on. The security vehicle continued toward the aircraft then came to an abrupt stop about 10 m to the right of the aircraft's nose. The car then reversed clear of the aircraft and passed behind VZA, and continued on its journey to Terminal 1.

Captain comments (VH-VZA)

The captain reported that the aircraft was taxiing with the taxi light,[6] navigation lights,[7] anti-collision lights[8] and, initially, both runway turn-off lights on. He advised that it was common practice to turn off the relevant runway turn-off light when passing an opposite direction aircraft, to avoid adversely affecting the night vision of the crew in that aircraft.

He further stated that the DOM 1 entry and exit area, where the airside road crosses, was busy, but well lit. He was surprised that the driver of the security vehicle did not see the aircraft.

Figure 3: Sydney Airport Domestic 1



Source: Google earth

Security vehicle driver comments

The security vehicle driver had been tasked by the ramp supervisor to take some documents from Terminal 2 to Terminal 1 on the other side of the airport. He was accompanied by a colleague. As per the procedures[9] for vehicle movements on the apron, the driver was using the appropriately marked airside road and was travelling within the maximum allowable speed of 30 km/h.[10] The vehicle headlights were on low beam and the rotating beacon on top of the vehicle was on.

As the vehicle approached the intersection of the airside road and taxiway B2 (Figure 3), he reported slowing to between 25 to 30 km/h. He looked to his left, but did not see the lights of VZA.

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6 Taxi light is located on the nose wheel of the aircraft.

7 Aircraft navigation lights illuminate the red and green wingtip navigation lights and the white trailing edge wingtip lights.

8 Red high intensity strobe lights located on the upper and lower fuselage.

9 Sydney Airport – Airside Vehicle Control Handbook: Version 3.0.3 (2006).

10 Sydney Airport – Airside Vehicle Control Handbook: Section 4.5- Speed Limits.

Assuming the area was clear; he directed his attention to the parking bay area to the right. He was aware that, at night, visibility of aircraft approaching from the parking bays could be obstructed.

The driver also reported that, once a vehicle on the airside road passes the give way point (Figure 2 and 3), the vehicle is angled to the right. This restricts sighting aircraft taxiing from the left, especially at night.

Figure 4: VH-VZA

Source: Brett Pulton

Safety action

Security operator

As a result of this occurrence, the operator of the security organisation has advised the ATSB that they will be conducting a review of their vehicle patrol requirements, focusing on staff safety knowledge, competency, driving skills and physical fitness. At the time of publication, the company had already conducted preliminary meetings to further define the scope of the review.

Safety message

Although this particular incident did not occur on the ground area controlled by Airservices Australia at Sydney Airport, the information regarding situation awareness in their latest version of the publication of *An Airside Driver's Guide to Runway Safety* remains relevant. This publication highlights the need to carefully scan areas potentially occupied by aircraft, prior to crossing.

www.airservicesuastralia.com/wp-content/uploads/airside_drivers_guide.pdf.

The ATSB published a research paper on ground operation occurrences at Australian Airports over a 10 year period. This publication highlighted ground operations as potentially being one of the most dangerous areas of aircraft operation. Of the 282 ground occurrences reported to the ATSB between 1 January 1998 and 31 December 2008, 11 per cent of occurrences happened when the aircraft was approaching the gate. About 37 per cent of the approaching the gate phase occurrences were attributed to near collisions with vehicles. These occurrences required immediate braking action by the flight crew or vehicle driver in order to avoid a collision. The research report is available at www.atsb.gov.au/publications/2009/ar2009042.aspx.

General details

Occurrence details

Date and time:	26 August 2013 – 2220 EST	
Occurrence category:	Serious incident	
Primary occurrence type:	Ground proximity event	
Location:	Sydney Airport, New South Wales	
	Latitude: 33° 56.77' S	Longitude: 151° 10.63' E

Aircraft details

Manufacturer and model:	Boeing Aircraft Company 737-838	
Registration:	VH-VZA	
Operator:	Qantas Airways	
Serial number:	34195	
Type of operation:	Air transport – high capacity	
Persons on board:	Crew – Unknown	Passengers – Unknown
Injuries:	Crew – Nil	Passengers –Nil
Damage:	Nil	

Security vehicle

Manufacturer and model:	Toyota 3 door Yaris	
Type of operation:	Airport security	
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew –Nil	Passengers – 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.