Australian Government

Australian Transport Safety Bureau

Runway incursion involving Fairchild SA227, VH-HPE

Richmond Airport, Queensland, 7 June 2016

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2016-056
Final – 14 October 2016

Released in accordance with section 25 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, Australian Capital Territory 2601
Telephone: 1800 020 616, from overseas +61 2 6257 4150 (24 hours)
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117, from overseas +61 2 6247 3117
Email: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

Addendum

Page	Change	Date

Runway incursion involving Fairchild SA227, VH-HPE

What happened

On 7 June 2016, at 0418 Eastern Standard Time (EST), the pilot of a Fairchild SA227-DC, registered VH-HPE (HPE), departed Brisbane Airport, Queensland, for a flight to Mount Isa, Queensland. The flight included intermediate stops at Rockhampton and Richmond. The pilot was the only person on board the scheduled freight flight.

Prior to commencing the flight, the pilot reviewed the weather and NOTAM[1] information. The pilot noted there was no NOTAM information for Richmond Airport for the expected arrival time.

After completing the first leg of the flight, HPE departed Rockhampton for Richmond 30 minutes later than scheduled, at about 0615. The expected arrival time for Richmond was about 0810.

At about 0800, the aerodrome reporting officer (ARO) arrived at Richmond Airport with a work crew to undertake pre-planned work. The planned work was to remove plant growth from around the runway lights. The ARO conducted a pre-work safety briefing which included the work crew actions in the event of an aircraft arrival. The ARO then gave the two available hand-held VHF radios to the workers in the two works vehicles working within the runway strip. The ARO did not have a VHF radio in their vehicle and they were the only person qualified to broadcast on the common traffic advisory frequency (CTAF) used by aircraft, which uses VHF. All other works vehicles carried UHF radios.

At about the same time, the pilot of HPE broadcast on the Richmond CTAF advising they were 40 NM to the east and conducting a straight-in approach to runway 27. The pilot received a full response from the aerodrome frequency response unit (AFRU).[2]

After the brief, the workers undertook the required task in three groups. One group positioned at the eastern end of the runway and a second group at the western end of the runway while the ARO remained at a mid-point along the runway (Figure 1). While the work groups conducted the plant removal, the pilot of HPE activated the pilot activated lighting.[3] The workers in the groups at each end of the runway observed the lights illuminating and immediately began to vacate the runway strip.[4] The pilot made a further broadcast when 20 NM east of Richmond, and received only a short response from the AFRU.

At about 0815, as the aircraft joined a 5 NM final approach to runway 27, the pilot reported that they sighted a vehicle on the runway threshold moving clear of the runway strip. The pilot then broadcast on the Richmond CTAF and broadcast again passing 3 NM on final approach to the runway. They received no response to the broadcasts apart from the AFRU short response.

As HPE approached the runway, the pilot reported that they noticed vehicles and equipment at the far end of the runway and witches hats along the edge of the bitumen. As the vehicles and equipment had moved clear of the runway strip, the pilot continued the approach. At a height of

---

1 A Notice To Airmen (NOTAM) advises personnel concerned with flight operations of information concerning the establishment, condition or change in any aeronautical facility, service, procedure, or hazard, the timely knowledge of which is essential to safe flight.

2 Aerodrome frequency response unit provides an automatic response when pilots transmit on the traffic frequency for that particular aerodrome. If no other transmissions have been received by the AFRU within the previous 5 minutes the AFRU will respond with a pre-recorded voice message comprising aerodrome identification followed by 'CTAF'. If a transmission has been received within the previous 5 minutes the AFRU will respond with only a short tone.

3 Pilot activated runway and taxiway lighting is activated by a series of timed transmissions using the aircraft's very high frequency radio, on either a discrete or the local airport communication frequency.

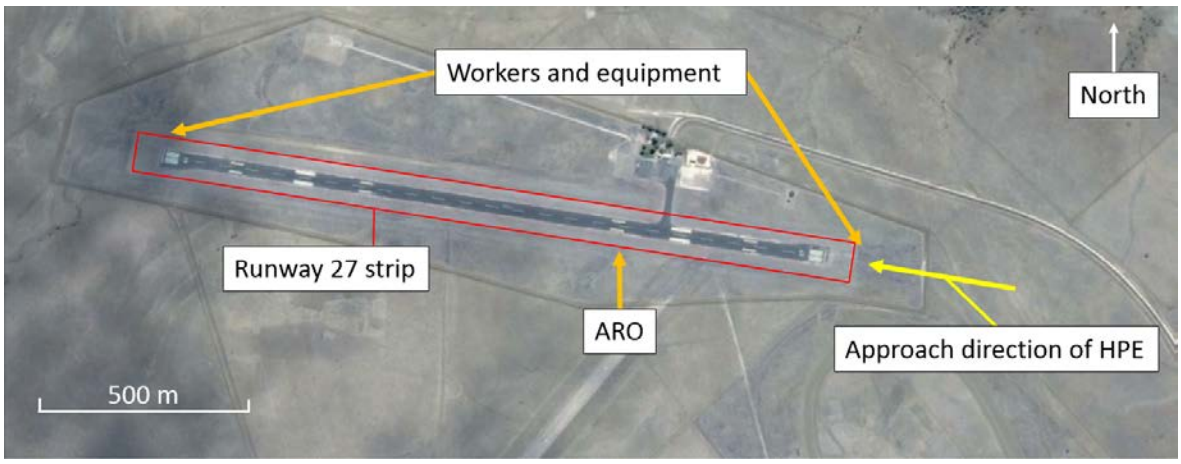
4 Runway strip is a prepared area provided around the runway to reduce risk of damage to an aircraft running off of a runway and also provide an obstacle-free area for aircraft using the runway during take-off and landing.

about 100-200 ft above ground level, the pilot reported that they observed a person inside the runway strip near the bitumen of the runway and conducted a go-around.[5]

The pilot then re-joined the circuit, and observed that all workers and equipment were clear of the runway. The pilot conducted a second approach and landed without incident.

No persons were injured and the aircraft was not damaged in the incident.

Figure 1: Richmond Airport



Source: Google Earth, modified by the ATSB

Aerodrome reporting officer (ARO) comment

The aerodrome reporting officer provided the following comments:

- The works procedures for Richmond Airport require a NOTAM to be provided for all works within the runway strip exceeding 30 minutes duration. As the ARO did not expect the works to exceed 30 minutes duration, no NOTAM was provided.
- The ARO elected to conduct the works on a Tuesday, as no passenger service was scheduled for that day.
- The ARO receives no notification of the actual expected arrival time of the scheduled daily freight service, therefore they were not aware that the service was running late and did not check the airport movement log. Had the ARO checked the log they would have delayed the works until after the aircraft had departed.
- The work crews carried two hand-held VHF radios for communicating with aircraft. While broadcasts from aircraft further than 5 NM from Richmond Airport may not be heard, calls within 5 NM are generally received.
- The runway lights were activated about 15 minutes prior to the aircraft landing.
- HPE conducted a straight-in approach to runway 27. In the past, aircraft arriving overflew the airport prior to approaching to land which the ARO believes is a safer procedure.
- All workers and equipment were clear of the runway strip at the time HPE arrived. However, the workers and equipment positioned themselves just outside the runway strip. It may have appeared to the pilot that the workers and equipment were not clear.

Pilot comment

The pilot of HPE provided the following comments:

[5] Go-around, the procedure for discontinuing an approach to land, is a standard manoeuvre performed when a pilot is not completely satisfied that the requirements for a safe landing have been met. This involves the pilot discontinuing the approach to land and may involve gaining altitude before conducting another approach to land.

- When approaching Richmond Airport an inbound radio broadcast was made. The AFRU provided a full response, which confirmed that their radio was working correctly and no radio broadcasts from other sources had been recently made within the Richmond CTAF.
- No radio call was received from the work crew before or after the incident.

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.

Airport operator

As a result of this occurrence, the airport operator has advised the ATSB that they are taking the following safety action:

Change to works procedure

Prior to conducting works within the runway strip, the flight log is to be reviewed to ensure no flights are scheduled to arrive while work is in progress.

Safety message

The ATSB SafetyWatch highlights the broad safety concerns that come out of our investigation findings and from the occurrence data reported to us by industry. One identified concern is *Safety around non-controlled aerodromes*.

This incident shows the importance of communication and ensuring that the systems exist and are used to minimise the likelihood of communication break downs. Effective communication between all parts of the aviation system, along with robust systems in place to support the individuals, is essential for safe operations.

- The ATSB booklet, *A pilot's guide to staying safe in the vicinity of non-controlled aerodromes* provides information to assist pilots to safely operate around non-controlled aerodromes.
- The Airservices Australia document *An airside driver's guide to runway safety* provides information to assist ground personnel to operate safely at both controlled and non-controlled aerodromes.

General details

Occurrence details

Date and time:	7 June 2016 – 0820 EST	
Occurrence category:	Incident	
Primary occurrence type:	Runway Incursion	
Location:	Richmond Airport, Queensland	
	Latitude: 20° 42.12' S	Longitude: 143° 06.88' E

Aircraft details

Manufacturer and model:	Fairchild Industries SA227-DC	
Registration:	VH-HPE	
Serial number:	DC-823B	
Type of operation:	Air Transport Low Capacity - Freight	
Persons on board:	Crew – 1	Passengers – 0
Injuries:	Crew – 0	Passengers – 0

Aircraft 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 operations involving the travelling public.

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.