Aviation Safety Investigation Report 199601474

Piper Aircraft Corp Chieftain

03 May 1996

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Aviation Safety Investigation Report

199601474

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number:	199601474	**Occurrence Type:**	Incident
Location:	Launceston, Aerodrome		
State:	TAS	**Inv Category:**	4
Date:	Friday 03 May 1996		
Time:	0850 hours	**Time Zone**	EST
Highest Injury Level:	None		

Aircraft Manufacturer:	Piper Aircraft Corp		
Aircraft Model:	PA-31-350		
Aircraft Registration:	VH-OZP	**Serial Number:**	31-7752050
Type of Operation:	Air Transport Domestic Low Capacity Passenger Scheduled		
Damage to Aircraft:	Nil		
Departure Point:	Moorabbin VIC		
Departure Time:			
Destination:	Launceston TAS		

Approved for Release: Thursday, August 1, 1996

FACTUAL INFORMATION

A Piper Chieftain aircraft, inbound to Launceston from Moorabbin, had been cleared to track via the Launceston (LT) very high frequency omni-directional radio range (VOR) navigation aid to the Nile non-directional beacon (NDB). The cloud base was approximately 300 feet with fog and visibility of 4000 metres at the aerodrome. The Chieftain was to conduct an instrument landing system (ILS) approach to runway 32 left (32L) due to the weather conditions.

The tower was manned by a single air traffic controller. Prior to the incident the controller had frequently discussed weather conditions with the Melbourne Centre Coordinator, Sector controller and local meteorological personnel. At the same time, the controller had processed a number of aircraft (inbound and outbound) and was monitoring the operations of two vehicles on the aerodrome. A safety officer in one vehicle was conducting runway 32L lighting checks, which required the controller to adjust runway light switches, while the other officer was inspecting grass runway 18/36.

Due to the inbound track of the aircraft and orientation of runway 32L the pilot of the Chieftain had to make a reversal procedure at the Nile NDB prior to commencing the ILS approach. When the pilot reported over the Nile NDB, after tracking from the VOR and before conducting the reversal procedure, the controller instructed the pilot to report 'Nile outbound'. This was queried by the pilot and confirmed by the controller as 'Nile outbound'. The pilot tracked outbound from the NDB, conducted the reversal procedure and reported 'Nile inbound' which was contrary to the report required by the controller. The controller cleared the pilot to make a 32ILS approach, provided airfield information and instructed the pilot to 'Report on final leaving 3,000'.

As the controller completed flight strips he became distracted and did not observe the Chieftain as it broke out of cloud and approached the runway. The safety officer on runway 32L observed the aircraft on final in the vehicle's rear vision mirror and immediately vacated the runway. The driver did not notify the controller the vehicle had vacated the runway strip.

The pilot had became visual just before the minima and after visually ascertaining the runway was unobstructed continued with the approach and landed without a landing clearance. There was a breakdown in procedures but no breakdown in separation.

ANALYSIS

The controller assumed the pilot report of 'Nile inbound' was the previously requested 'Nile outbound' report, and that the reversal procedure was still to be completed. Consequently, the controller thought there were a few minutes available to clear the printer and compile flight strips before needing to look for the Chieftain on ILS final and instructing the driver to vacate the runway. However, this was not the case and the aircraft was closer to the aerodrome than the controller appreciated. The controller would appear to have heard what he expected to hear and not what was actually reported by the pilot. The phenomena of 'hearback' is recognised as a problem in aviation communication. However, it is difficult to guard against, especially when an individual is working alone. Had another controller been present the misunderstanding of the pilot's report may have been detected. Alternatively, if the controller had been able to concentrate on controlling and not been required to prepare flight strips he may have been able to detect the changed report.

The pilot had a clearance for final which authorised the aircraft to leave the lowest holding altitude and to make a circling or missed approach as appropriate. A clearance for final is subject to any further air traffic control instructions and a clearance to land. In this situation the pilot had a clearance limit of the runway and should not have continued with the landing without a specific clearance of 'Clear to land'. But the pilot had the impression that he had a clearance to land and that the controller was well aware of the aircraft's location in the approach. Consequently, the pilot considered further reports unnecessary. This aspect is a failed defence as procedural air traffic control relies solely on pilot reports to arrange aircraft separation in instrument meteorological conditions. The lack of reports would have diminished the controller's situational awareness. Provision of the report of 'On final leaving 3,000' may have provided a cue to the controller that the aircraft was closer to the aerodrome than expected. As a consequence the controller would probably have given greater priority to the approaching aircraft by ensuring runway availability (by instructing the vehicles to vacate) and issuing a landing clearance.

While the safety officers were obliged to notify the controller when a vehicle had vacated the runway, in accordance with airport operating procedures, the lack of notification was not a significant factor in the incident. Whether notification was provided or not, would not alleviate the responsibility of the controller to make a visual check of the runway to ensure the landing path was not obstructed prior to approving the aircraft to land. The action of the safety officer operating on the aerodrome control frequency while on the runway was an active defence in the incident. The officer heard the radio transmissions between the Chieftain pilot and the controller and was aware an aircraft was in the vicinity preparing to land. Consequently, he was prepared and able to vacate the runway in sufficient time for the Chieftain to land after the aircraft was observed on final. The officer's high level of situational awareness was the major factor that ensured the runway was not obstructed when the pilot landed without a clearance. However, the driver could have assisted the controller to maintain situational awareness by notifying that the vehicle was vacating the runway due to an approaching aircraft.

The pilot stated he became visual just before the minima and observed some vehicle activity near the runway edge. After checking the runway was clear he continued with the approach and landed. The controller did observe the flight of the Chieftain just prior to touchdown. However, after visually scanning the runway, observing the vehicles had vacated and believing that a landing was inevitable, he felt there was no need to distract the pilot with a late radio transmission during a critical phase of flight.

FINDINGS

1. The pilot of the Chieftain did not report at Nile outbound.

2. The controller incorrectly heard or misinterpreted the pilot's Nile inbound report.

3. The pilot did not report on final leaving 3,000 feet as instructed.

4. The safety officer observed the approaching aircraft and vacated the runway strip.

5. The safety officers did not report vacating the runway strip to the controller.

6. The controller observed the Chieftain just prior to touchdown.

7. The pilot of the Chieftain landed without a clearance.