Aviation Safety Investigation Report 199003526

Boeing 737-376

18 November 1990

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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.

Occurrence Number: 199003526 **Occurrence Type:** Incident
Location: Cairns QLD
Date: 18 November 1990 **Time:** 2038
Highest Injury Level: Nil
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	0	0
Ground	0	0	0	-
Passenger	0	0	0	0
Total	**0**	**0**	**0**	**0**

Aircraft Details: Boeing 737-376
Registration: VH-TAW
Serial Number: 23488
Operation Type: Regular Public Transport
Damage Level: Nil
Departure Point: Brisbane QLD
Departure Time: N/K
Destination: Cairns QLD

Approved for Release: 13th December 1990

Circumstances:

A report was received that indicated that a jet aircraft struck power lines during an approach to land on Runway 33 at Cairns Airport. The resident of a house approximately 600 metres from the threshold of Runway 33 and on the extended centreline, claimed to have seen what she described as the wheels of the aircraft hitting the power lines after overflying her house during its approach to the runway. Examination of the particular aircraft showed no evidence of it having been in contact with the wires and the pilot reported that the approach was normal. The aircraft flight path was reconstructed using data from the Digital Flight Data Recorder, and this indicated that the height of the aircraft above the ground at the position of the failed powerline was approximately 50 metres. The height of the wires at mid span is approximately 8.6 metres, and the pole height is approximately 9.5 metres. Extensive checks did not reveal any evidence to support the resident's claim. The wires which were allegedly struck by the aircraft wheels showed no evidence of damage. The Far North Queensland Electricity Board (FNQEB) did receive a report of lines down in the area shortly after the arrival of the aircraft. However, the affected lines were not adjacent to the resident's house, but were around the corner in the adjoining street some 75 metres away. The damaged wires had been in contact with each other resulting in an explosion, and a blackout in the area. Separators are sometimes fitted to prevent wires from touching, and have since been placed on the affected wires when they were repaired. The adjoining span had been similarly da ed in the past, and it al so had bee n fitted wi th s eparators to p reven t a recurr ence. The c aus e of the wires f usin g t oget her could no t b e p osit iv ely d etermined, bu t was pr obabl y t he resu lt of wake tu rbulence (wi ng t ip vortic es) generated by th e aircraft passin g ove rhe ad. Win gtip vor tices are n arrow horizontal whirlw inds r ota ting in oppo site di rect ions and stream ing r earwards from each win gtip. The wingtip vortices of large aircraft are most intense when the aircraft is flying at low speed with high lift devices extended, such as during an approach to land. The vortices tend to settle behind the generating aircraft and then spread out laterally upon reaching the ground. Under the conditions prevailing on the night of the

occurrence, a light wind straight down the runway, it is likely that the vortices developed and caused the power lines to come into contact.