Aviation Safety Investigation Report 198903824

**Embraer EMB-110** 

22 November 1989

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Occurrence Nu Location:	mber: 198903 Kidstor	198903824 Kidston QLD		Occurrence Type: Accident		
Date:	22 Nov	22 November 1989		<b>Time:</b> 2035		
<b>Highest Injury</b>	Level: Nil	Nil				
Injuries:						
-		Fatal	Serious	Minor	None	
	Crew	0	0	1	1	
	Ground	0	0	0	-	
	Passeng	ger 0	0	0	1	
	Total	0	0	0	2	
Aircraft Details:	Embraer EMB-	110				
<b>Registration:</b>	VH-FCK					
Serial Number:	110-253					
<b>Operation Type:</b>	Charter					
Damage Level:	el: Substantial					
<b>Departure Point:</b>	: Mount Isa QLD					
Departure Time:	1839					
Destination:	Kidston QLD					

## Approved for Release: 3rd January 1990

## **Circumstances:**

The flight from Mount Isa had been conducted in rain and cloud. At 5000 feet during the descent, the pilot became visual with the runway lights and the nearby goldmine. The runway was overflown, and it was noted that the windsock was showing no significant wind. During the circuit for landing on runway 21, increasing rain and cloud was noticed on downwind, and on left base the pilot experienced heavy rain and strong wind gusts. The pilot had turned the windscreen wipers on but they were not clearing the windscreen effectively. Forward visibility was significantly reduced, and on final approach the pilot was having difficulty keeping the aircraft aligned with the runway due to the turbulence and wind gusts. He elected to go around and carry out another circuit. During the next circuit the conditions had not improved, and the pilot again decided to go around, as it had become increasingly difficult to maintain runway alignment. As the go-around was commenced the pilot heard a loud bang and realised the aircraft had struck trees. The aircraft was climbed and the Kidston NDB approach procedure was carried out. The pilot became visual at 2900 feet and carried a circuit and landing on runway 03. (Kidston is 1620 feet above sea level). After shutdown the aircraft was inspected and was found to have sustained tree impact damage to the left inboard leading edge, the left propeller, and the left horizontal stabiliser. The pilot believes the tree strike occurred as a result of downdraft associated with the storms in the immediate area. The Kidston aerodrome is established according to the provisions of AIP AGA-6 and although approved for the night operation being conducted, it does not have an approach guidance lighting system. The aerodrome does not have any other ground lighting in the immediate vicinity other than the runway lights, and this may lead to the pilot having a false perception of height and runway perspective. It is considered that the lack of approach guidance, combined with the prevailing weather conditions, contributed significantly to the cause of this accident. There is rising terrain on the approaches to runway 21. The pilot reported that he was having difficulty with forward visibility due to the ineffectiveness of the windscreen wipers. The effect of heavy rain on aircraft windshields may lead to a number of visual errors. One

effect is to make objects appear to be lower in relation to the aircraft than they actually are. Whilst it is difficult to estimate the magnitude of the error, the elements were present in this accident, and may have given the pilot a false impression of his height in relation to the runway lights.

## **Significant Factors:**

The following factors were considered relevant to the development of the accident

- 1. Weather associated with thunderstorms in the local area.
- 2. The aerodrome is not equipped with a runway approach lighting system.

3. During a visual approach the pilot encountered excessive crosswind, reduced visibility and turbulence.

4. The aircraft struck a tree on the approach to runway 21, due to the inability of the pilot to appreciate the proximity of the aircraft to the terrain on final approach.

5. The aircraft windscreen wipers were not working efficiently.

6. Excessive rain on the windscreen may have caused a visual error and contributed to the pilot flying the aircraft into an undershoot situation.

## **Reccomendations:**

During the preliminary stages of the investigation the following recommendation was made to the Civil Aviation Authority:- The Civil Aviation Authority should immediately review the suitability of Kidston aerodrome for night operations. The aerodrome was surveyed in February 1989 preparatory to the installation of approach lighting. The system was installed but was not commissioned due to problems with excessive light intensity. The Civil Aviation Authority should assess the need to make approach guidance lighting a requirement for night operations at Kidston.