Safety Regulation Group
Safety Investigation and Data Department

Follow-up Action on Occurrence Report

SERIOUS INCIDENT INVOLVING EMBRAER 135, SE-RAA, AT NORWICH AIRPORT ON 30 JANUARY 2003
(AIRCRAFT RAN OFF END OF RUNWAY WHEN LANDING IN SLUSH)

CAA FACTOR NUMBER	:	F39/2003
FACTOR PUBLICATION DATE	:	10 December 2003
OPERATOR	:	Eastern Airways
CAA OCCURRENCE NUMBER	:	2003/00560
AAIB REPORT	:	Bulletin 11/2003

SYNOPSIS

(From AAIB Report)

The crew reported for duty at 1200 hrs on the day of the incident expecting to fly two return flights from Norwich to Aberdeen. Snow showers at Norwich led to the cancellation of their first two sectors and it was 1730 hrs before they departed Norwich for Aberdeen. After an uneventful flight and turnaround they left Aberdeen for Norwich at 1919 hrs with the first officer acting as pilot flying (PF). During the cruise he briefed for an ILS approach to Runway 27 at Norwich using Flap 22 for landing, instead of the normal Flap 45, due to the forecast strong crosswind. ATIS 'L' was current at the time and gave landing conditions of light snow showers, a wind of 360°/11 kt, a temperature of +1°C and a wet runway. On first contact with Norwich Approach the crew were informed that ATIS 'M' was now in force with the wind now 030°/25 kt and the 'RUNWAY RECEIVING ANOTHER LIGHT DUSTING'. This was acknowledged by the crew but they did not listen to the complete broadcast of information 'M'. On base leg the approach controller informed the crew that the runway was covered in 'SLUSH MIXED WITH HAIL TO A DEPTH OF 2-3MM…. YOU CAN STILL SEE THE WHITE LINES THROUGH THE SLUSH.' Although the crew acknowledged this, they had no recollection after the incident of receiving this information.

During the descent the crew also received an Engine Indication and Crew Alerting System (EICAS) Stall Protection System (SPS) warning which had illuminated due to ice accretion. In accordance with company procedures they added 6 kt to their approach speed (VAPP) giving them 130 kt as their VAPP and 120 kt as their VREF. During the final stages of the ILS approach, the Norwich tower controller gave three further readouts as the wind veered and increased. On touchdown the wind was 020°/23 kt giving a tailwind component of 10 kt and a crosswind component of 21 kt.

The first officer flared the aircraft as normal and then felt the right wing drop. He corrected for this but the aircraft floated down the runway, touching down at 120 kt, between 500 and 600 metres from the threshold. Fire crews, who were on weather standby and pre-positioned near the taxiway/runway intersection at B1, 500 metres from the threshold of Runway 27, reported that the aircraft touched down beyond the intersection. In accordance with the company Standard Operating Procedures (SOP's), the Commander called 'MY BRAKES', pressed the brake pedals but felt no retardation. He tried several times with no effect and even the application of the parking brake, which applies full system pressure, made no noticeable difference to the aircraft's rate of retardation. The first officer transmitted that they were 'GOING OFF THE END OF THE RUNWAY' and they left the paved surface at a ground speed of 74 kt. The overrun area was a field covered in snow. This produced significant retardation and they came to rest 130 metres after leaving the paved surface. The fire crews were in attendance at the aircraft just after it came to a stop. There were no immediate signs of damage or fire and, after the crew had shut down the engines, the passengers disembarked in the normal manner.

This document is published by the Safety Investigation and Data Department, Safety Regulation Group, Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Tel: 01293 573220 Fax: 01293 573972 Telex: 878753

FOLLOW UP ACTION

The two Safety Recommendations, made by the AAIB following their investigation, are reproduced below, together with the CAA's responses.

Recommendation 2003-96

It is recommended that the CAA encourage research that could lead to the production of equipment that can accurately measure the braking action of runways under all conditions of surface contamination.

CAA Response

The CAA accepts the recommendation. In response to the concerns of airlines when operating on runways of inferior friction characteristics, the CAA has convened a working group, involving airlines, aerodrome operators, research and development bodies and manufacturers of runway friction measurement devices, to address operational runway friction issues, including winter operations. The working group recognises that research worldwide has so far failed to provide an accurate measurement of friction or braking action on a runway contaminated by slush and wet snow, and that there are wider operational issues, such as the reliability of the reported measurement, that also need to be addressed.

In addition to the challenges and costs of developing a friction measurement device suitable for runways contaminated by slush and wet snow, manufacturers also have to consider whether there is sufficient market for such a device. However, the CAA is content to continue to encourage research that could lead to the production of equipment that can measure accurately the braking action the braking action under all conditions of surface contamination.

CAA Status - Closed

Recommendation 2003-97

It is recommended that City Airline, review its Embraer 135 landing configuration policy and, in consultation with Embraer Brasileira de Aeronautica SA, produce a comprehensive written procedure that includes advice and highlights the ramifications associated with the execution of a 'Flap 22' landing.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed