Safety Regulation Group
Safety Investigation and Data Department

Follow-up Action on Occurrence Report

SERIOUS INCIDENTS TO:

BOEING 737-81Q, G-XLAC ON 29 DECEMBER 2006

ATR-72-202, G-BWDA ON 29 DECEMBER 2006

EMB-145EU, G-EMBO ON 29 DECEMBER 2006

AND BOEING 737-81Q, G-XLAC ON 3 JANUARY 2007 AT BRISTOL INTERNATIONAL AIRPORT

CAA FACTOR NUMBER	:	F1/2009
FACTOR PUBLICATION DATE	:	09 January 2009
OPERATOR	:	XL Airways
CAA OCCURRENCE NUMBER	:	2006/11842
AAIB REPORT	:	AAR 1/2009

SYNOPSIS

From AAIB Report:
Re-surfacing and re-profiling work was taking place on parts of the runway as part of a major project to re-surface the manoeuvring area pavements, and sections of the runway surface were in grooved 'base course' asphalt. From 14 November 2006, there were reports from flight crew of a variety of problems related to the friction characteristics of the temporary runway surface, though no serious incidents occurred until 29 December 2006. On that day, the flight crew of G-XLAC experienced poor stopping performance during landing. Later that day, the flight crew of G-BWDA experienced stopping and lateral control difficulties during landing, and the aircraft departed the runway surface and came to rest on the grass area at the side of the runway. Later still, the flight crew of G-EMBO experienced lateral control difficulties during landing, and the aircraft partially left and then regained the runway. On 2 January 2007, another flight crew, also operating G-XLAC, experienced poor stopping performance. The airport was subsequently closed whilst grooves were cut in the base course. After it re-opened there were no further incidents.

The investigation identified the following causal factors:

1. Reduced friction on the wet ungrooved base course sections of the runway caused flight crews to experience reduced braking action and reduced lateral controllability on landing in strong crosswinds.

2. The FODCOM advice published by the CAA regarding operations on runways notified 'slippery when wet', in wet conditions, was not communicated by operators to flight crews.

3. The passing, by ATC, of braking action reports based on Mu-meter friction assessments, gave flight crews a false confidence in the braking action available on the wet runway.

The investigation identified the following contributory factor:

1. G-BWDA landed in a crosswind outside the operator's published limits and the subsequent use of reverse thrust was contrary to the advice contained in the company's Operations Manual.

FOLLOW UP ACTION

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

Recommendation 2008-075

The Civil Aviation Authority should inform airport operators about the potential hazards of operating aircraft on sections of ungrooved Marshall Asphalt base course during wet and windy conditions and require that these hazards be controlled during any runway-resurfacing programme.

CAA Response

The CAA accepts this recommendation. CAP 781 Runway Rehabilitation was published in June 2008 and provides advice to aerodrome operators. In particular, Section 3 paragraph 2.3.1 deals with adverse weather and aircraft performance, whilst paragraph 3.1.5 gives advice about temporary total ungrooved runway length (TTURL).

CAA Status - Closed

Recommendation 2008-076

The European Aviation Safety Agency should require operators to ensure that flight crews are provided with guidance material on aircraft performance when operating on a runway that is notified as 'may be slippery when wet', or has sections thereof notified as 'may be slippery when wet'.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed

Recommendation 2008-077

The Civil Aviation Authority should review the manner in which it transmits FODCOM information to ensure that safety critical information is effectively transmitted to private and commercial operators flying in the UK and that it is acted upon.

CAA Response

The CAA accepts this Recommendation. The CAA will review, in conjunction with industry, the means by which safety critical information is promulgated to ensure that it is effectively transmitted to private and commercial operators flying in the UK, and that it is acted upon. This Review will be completed by July 2009.

CAA Status - Open

Recommendation 2008-078

The Civil Aviation Authority should clarify to airport authorities, pilots, aircraft operators and air navigation service providers, that Continuous Friction Measuring Equipment must not be used to assess braking action on runways, which are wet, although it may be used in the wet for assessing the relative friction of different runway sections for maintenance purposes.

CAA Response

The CAA accepts this recommendation and has published a revised version of CAP 683 now titled 'The Assessment of Runway Surface Friction Characteristics'. Chapter 1 paragraph 3.3 warns aerodrome licence holders not to promulgate friction readings in periods of runway contamination, whilst Paragraph 4 explains the limitations of operational use of Continuous Friction Measuring Equipment.

Air Traffic Standards Division will issue an Air Traffic Standards Information Notice (ATSIN) to Air Navigation Service Providers (ANSPs) to draw their attention to the publication of the revised version of CAP 683. The Flight Operations Division proposes to issue a FODCOM drawing the attention of AOC holders to the contents of CAP 683 and CAP 781, however, as part of their normal remit, all AOC holders are required to consider material in CAPs that may affect their intended operations. The ATSIN and FODCOM will be published by March 2009.

CAA Status - Open

Recommendation 2008-079

The European Aviation Safety Agency should research the technical and operational feasibility of developing equipment and procedures to measure aircraft braking friction with respect to runway position, using on-board aircraft data from landings. As part of this research the European Aviation Safety Agency should develop appropriate standards of recording and methods for sharing this information, and its tolerances, in a timely manner, with interested parties.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed