Safety Regulation Group
Safety Data

Follow-up Action on Occurrence Report

INCIDENT TO BOEING 737-8K5, G-FDZR, AT NEWCASTLE AIRPORT ON 25 NOVEMBER 2010

CAA FACTOR NUMBER	:	F3/2012
FACTOR PUBLICATION DATE	:	12 March 2012
TYPE OF FLIGHT	:	Commercial Air Transport
CAA OCCURRENCE NUMBER	:	2010/13275
AAIB REPORT	:	2/2011

SYNOPSIS
From AAIB Report

The aircraft stopped with its nosewheel 10 ft beyond the marked runway end at the end of its landing rollout. The runway was reported to have a covering of 2 mm of wet snow, having been swept and inspected shortly before the incident. Towards the end of the landing run, deceleration of the aircraft had reduced despite the application of full manual braking.

FOLLOW UP ACTION

Recommendation 2011-087

It is recommended that the CAA publishes a single definition of Contaminated Runways.

CAA Response

The CAA accepts this recommendation and will publish in its documents, by March 2013, a single definition for a contaminated runway, in line with the definition in EU-OPS 1.480.

Across the aviation industry, there is no common taxonomy regarding runway contamination, and the requirements published by ICAO and EASA (in EU-OPS) are different. EU-OPS 1.480 contains a definition of, amongst other things, a contaminated runway. This definition is linked to the definitions of runway surface contaminants contained in EASA CS 25 Certification Specifications for Large Aeroplanes. The material contained across CAA documentation relating to contaminated runway operations is targeted at different audiences and therefore there are necessary differences in style and content. The CAA will review its publications and update references to contaminated runways to reflect the definition in EU-OPS 1.480.

Nevertheless, whilst the concept of a single definition of a contaminated runway is understood, it must be acknowledged that there are different definitions published by EASA and ICAO, thereby creating a conflict not only for the CAA but other National Authorities. The CAA has elected to adopt the EASA definition in its publications for the foreseeable future but the CAA will also continue to work with the ICAO Friction Task Force (FTF) on a common taxonomy for contaminated runways.

CAA Status - Open

This publication provides the initial response to each Safety Recommendation made by the Air Accidents Investigation Branch, Department of Transport Status 'CLOSED' or 'OPEN' indicates completion or not of all actions judged appropriate by the CAA in response to the Recommendation. It is published by the Safety Data, Safety Regulation Group, Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Tel: 01293 573220 Fax: 01293 573972 Email: sdd@caa.co.uk

The current status and the final responses to all safety recommendations are contained in an annual AAIB report titled ACCIDENTS INVESTIGATION BRANCH (AAIB) SAFETY RECOMMENDATIONS AND RESPONSES.

Recommendation 2011-088

It is recommended that the CAA develops a system of contaminant depth measurement that provides accurate and timely runway contamination information to enable pilots to determine the landing distance required.

CAA Response

The CAA accepts the Recommendation insofar as the CAA is committed to working with the industry to identify a reliable means of providing accurate and timely runway contamination information, to enable pilots to determine the landing distance required.

During winter 2010-11, the CAA led a limited trial at four UK aerodromes, using a new matrix to attempt to correlate runway contamination readings with aircraft braking performance. Subsequently, a wider trial involving seventeen UK aerodromes is underway this winter. This trial involves the adoption of an enhanced runway contamination matrix which uses standard phraseology to describe estimated runway friction. This is obtained by assessing the runway state against a reference table using the type of contaminant and its depth. The trial also assesses whether aircrew understand the phraseology and whether the reports add value to the runway state report.

The trial will help to improve the picture of the relationship between contaminant depth and landing distance required, but the correlation will also need to involve improved contaminant depth information and involve technologies that can translate this into aircraft performance systems. This cannot be done by the CAA in isolation as it needs input from aircraft manufacturers. Although the CAA is currently working with Airbus and Boeing, it is clear that there is a large amount of further work required to make the links between contaminant depth and landing distance required. EASA has commissioned research into systems/equipment that seeks to link these two elements, but this is a project that will build on work originally commissioned by the CAA in partnership with specialist industry stakeholders. The research will need input from data gathered from a modified Continuous Friction Measuring Equipment (CFME) and validation of the mathematical model upon which the trial sits in order to succeed.

Similarly, the FAA, through its Take-off And Landing Performance Assessment Rulemaking Committee (TALPA-ARC) trials, has been working to develop a system which does enable runway contamination information to be used to help to determine landing distance required. As in the UK, this remains a work in progress and the CAA is not aware of the timescale for this work to be complete.

The ICAO FTF, TALPA-ARC and EASA work is rapidly changing the wisdom and state of the art in terms of the relationships between runway contamination and aircraft braking action. The CAA is working with these organisations, along with aircraft manufacturers and the UK industry (aerodromes, air traffic service providers and airlines) to coordinate the approach.

In summary, the CAA cannot, on its own, develop a system of contaminant depth measurement that provides accurate and timely runway contamination information to enable pilots to determine the landing distance required. The CAA will continue to promote a worldwide coordinated approach and work with its industry and international partners to try to resolve what is a highly complex issue. In the meantime, work already completed and set out in NOTAL 2010/09 has gone some way to improving the quality and timeliness of contaminant depth pilots can expect from aerodromes during contaminated runway operations.

By September 2012, the CAA will analyse the results of the 2011/2012 UK winter operations trial and make recommendations for further work to move towards the objective sought by this recommendation, recognising the international and aviation industry-wide context of this issue.

CAA Status – Open