Safety Regulation Group
Safety Information and Data Department

Follow-up Action on Occurrence Report

SERIOUS INCIDENT INVOLVING EMBRAER EMB-145EP, G-RJXG, ON APPROACH TO MANCHESTER AIRPORT ON 25 SEPTEMBER 2001

(ENGINE RUN DOWN AFTER LIGHTNING STRIKE)

CAA FACTOR NUMBER	:	F41/2005
FACTOR PUBLICATION DATE	:	09 December 2005
OPERATOR	:	BMI Regional Airlines
CAA OCCURRENCE NUMBER	:	2001/06674
AAIB REPORT	:	Bulletin 11/2005

SYNOPSIS

(From AAIB Report)

The aircraft was carrying out a scheduled flight from Aberdeen to Manchester. The commander, who was the handling pilot, reported that during the flight the weather radar was displaying weak returns of cumulonimbus cloud activity, but he manoeuvred the aircraft in order to avoid the affected areas, primarily by visual means.

He accepted radar vectors to position the aircraft downwind for the landing runway. Just as the aircraft entered cloud, a lightning strike occurred. The commander subsequently reported that there was neither turbulence nor significant precipitation at that time. Recorded data indicated that the aircraft was close to FL70 at the time with a low thrust setting.

The first officer informed the commander that he had observed a left engine over-temperature indication. Within 5 to 10 seconds of the strike, both crew members noted that the left engine operating parameters were decreasing rapidly. They were not aware of any warning or caution indications at the time.

A distress call was broadcast and checklist procedures for both engine failure and single engined approach were carried out. An uneventful single engined landing then took place at 1415 hrs.

FOLLOW UP ACTION

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

Recommendation 2005-94

It is recommended that, in order to minimise the risk of uncommanded shut-downs, EASA, FAA and the Centro Tecnico Aeroespacial (CTA) of Brazil in conjunction with aircraft and engine manufacturers should review and, if necessary, initiate appropriate research into the aero-thermal disruption of intake flow and other effects of lightning strikes on fuselage mounted turbine engines in order to establish whether there is a safety of flight issue that should be addressed by appropriate future rulemaking. They should also consider the application of any proposed rules to types currently in service.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed

Recommendation 2005-95

It is recommended that, with advances in the technology which becomes available to them, Rolls-Royce Corporation continue to explore the potential to make modifications to the FADEC logic to enable the re-establishment of stable running conditions, after detection of a surge condition, before the FADEC attempts to restore selected engine power.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed

Recommendation 2005-96

It is recommended that, consideration be given by Embraer to amending the EMB 145 operating procedures and minimum equipment list to ensure that, in the event of an engine flame-out and continued flight in a zone with a high probability of lightning strikes, the supply of APU air for main engine starting remains available.

CAA Response

This Recommendation is not addressed to the CAA.

CAA Status - Closed