4 Safety Recommendations

Safety Recommendations made previously in S1/2008 published 18 February 2008

4.1 **Safety Recommendation 2008-009:** Boeing should notify all Boeing 777 operators of the necessity to operate the fuel control switch to CUTOFF prior to operation of the fire handle, for both the fire drill and the evacuation drill, and ensure that all versions of its checklists, including electronic and placarded versions of the drill, are consistent with this procedure.

Safety Recommendations made previously in Interim Report published on 15 September 2008.

4.2 **Safety Recommendation 2008-047:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency, in conjunction with Boeing and Rolls-Royce, introduce interim measures for the Boeing 777, powered by Trent 800 engines, to reduce the risk of ice formed from water in aviation turbine fuel causing a restriction in the fuel feed system.

4.3 **Safety Recommendation 2008-048:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency should take immediate action to Consider the implications of the findings of this investigation on other certificated airframe / engine combinations.

4.4 **Safety Recommendation 2008-049:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency review the current certification requirements to ensure that aircraft and engine fuel systems are tolerant to the potential build up and sudden release of ice in the fuel feed systems.

Safety Recommendations made previously in Interim Report 2 published on 12 March 2009.

4.5 **Safety Recommendation 2009-028:** It is recommended that Boeing and Rolls-Royce jointly review the aircraft and engine fuel system design for the Boeing 777, powered by Rolls-Royce Trent 800 engines, to develop changes which prevent ice from causing a restriction to the fuel flow at the fuel oil heat exchanger.

4.6 **Safety Recommendation 2009-029:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency consider mandating design changes that are introduced as a result of recommendation 2009-028, developed to prevent ice from causing a restriction to the fuel flow at the fuel oil heat exchanger on Boeing 777 aircraft powered by Rolls-Royce Trent 800 engines.

4.7 **Safety Recommendation 2009-030:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency conduct a study into the feasibility of expanding the use of anti ice additives in aviation turbine fuel on civil aircraft.

4.8 **Safety Recommendation 2009-031:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency jointly conduct research into ice formation in aviation turbine fuels.

4.9 **Safety Recommendation 2009-032:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency jointly conduct research into ice accumulation and subsequent release mechanisms within aircraft and engine fuel systems.

Safety Recommendations made in this report

4.10 **Safety Recommendation 2009-091:** It is recommended that the European Aviation Safety Agency introduce a requirement to record, on a DFDR, the operational position of each engine fuel metering device where practicable.

4.11 **Safety Recommendation 2009-092:** It is recommended that the Federal Aviation Administration introduce a requirement to record, on a DFDR, the operational position of each engine fuel metering device where practicable.

4.12 **Safety Recommendation 2009-093:** It is recommended that Boeing minimise the amount of buffering of data, prior to its being recorded on a QAR, on all Boeing 777 aircraft.

4.13 **Safety Recommendation 2009-094:** It is recommended that Boeing apply the modified design of the B777-200LR main landing gear drag brace, or an equivalent measure, to prevent fuel tank rupture, on future Boeing 777 models and continuing production of existing models of the type.

4.14 **Safety Recommendation 2009-095:** It is recommended that the Federal Aviation Administration amend their requirements for landing gear emergency loading conditions to include combinations of side loads.

4.15 **Safety Recommendation 2009-096:** It is recommended that the Federal Aviation Administration, in conjunction with the European Aviation Safety Agency review the requirements for landing gear failures to include the effects of landing on different types of surface.

4.16 **Safety Recommendation 2009-097:** It is recommended that the Federal Aviation Administration require that Boeing modify the design, for the Boeing 777, of the indirect ceiling light assemblies, their associated attachments, and their immediate surroundings to ensure that the fluorescent tubes, or their fragments, will be retained in a survivable impact.

4.17 **Safety Recommendation 2009-098:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency, review the qualification testing requirements applied by manufacturers to cabin fittings, to allow for dynamic flexing of fuselage and cabin structure.

4.18 **Safety Recommendation 2009-100:** It is recommended that the European Aviation Safety Agency mandate MSB4400-25MB059 Revision 3 to require the inspection and replacement of the video monitor fittings on the Recaro seat model 4400.

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