EASA Safety Information Bulletin

SIB No.: **2010-33**
Issued: **18 November 2010**

Subject: **Flight Deck Automation Policy - Mode Awareness and Energy State Management**

Ref. Publication: Commercial Aviation Safety Team (CAST) Safety Enhancement 30 Revision-5, August 2008: "Mode Awareness and Energy State Management Aspects of Flight Deck Automation", Final Report:

ICAO's Cooperative Development of Operational Safety & Continuing Airworthiness Programme (COSCAP) North Asia Advisory Circular for Air Operators, CNA 020 Issue 1, which can be downloaded here.

Applicability: Commercial Air Transport operators of turbine-powered aeroplanes fitted with advanced flight deck automation capabilities.

Description: This Safety Information Bulletin (SIB) is issued to remind air operators of the importance of air crews continuing to be aware of the automation mode under which the aircraft is operating and to recommend implementation of an Automation Policy. This SIB is based on significant amount of safety data collected through pilots' reporting programmes and accident investigation information.

Automation has contributed substantially to the sustained improvement of flight safety. Automation increases the timeliness and precision of routine procedures reducing the opportunity for errors and the associated risks to the safety of the flight.

Nevertheless, automation has its limits. Critically, in complex and highly automated aircraft, flight crews can lose situational awareness of the automation mode under which the aircraft is operating or may not understand the interaction between a mode of automation and a particular phase of flight or pilot input. Such confusion can lead to the mismanagement of the energy state of the aircraft or to the aircraft deviating from the intended flight path.

More information about Mode Awareness and Energy State Management aspects of flight deck automation can be found in COSCAP-NA CNA 020 Issue 1 and in CAST Safety Enhancement 30 Revision 5. Furthermore, the same documents contain a sample automation policy based on a set of common industry practices that are known to be effective that should be referred to when preparing an Automation Policy.

This is information only. Recommendations are not mandatory.

Note: This SIB on Automation Policy is prepared in a context in which air operators are requested to provide an Operations Manual which should contain Flight Procedures, one of them being related to the policy on the use of autopilot and auto throttle in accordance with Commission Regulation (EC) No 859/2008 of 20 August 2008 Subpart P 8.3.18.

Recommendations: Air operators are recommended to:

- Prepare, in cooperation with airplane manufacturers, an Automation Policy which should in particular address the seven following topics:
  o Philosophy
  o Levels of automation
  o Situational awareness
  o Communication and coordination
  o Verification
  o System and Crew Monitoring
  o Workload and System Use

  A core philosophy of "**FLY THE AIRPLANE**" should permeate the automation policy prepared by air operators.

- If an Automation Policy already exists, assess the policy against the above topics and identify any needed changes.

- Ensure that each topic is regularly reinforced in operating procedures and training programs.

- Regularly train staff on the Automation Policy and related operating procedures, including flight manual emergency procedures.

- Regularly review the Automation Policy and related operating procedures for continuous safety improvement.

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