

JAA/FAA/TCCA
International MRB Policy Board
Issue Paper

Date 24/05/2005
IMRBPB 85

Title: Protective Systems

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Issue: Assumptions made by Working Groups for Protective Systems

Problem: Systems such as Takeoff warning, Ground Proximity Warning (GPWS/EGPWS), Traffic Alert and Collision Avoidance System (TCAS), and others are installed on Part 25 certificated aircraft to reduce the possibility of a catastrophic event due to operational error.

When MSG-3 analytical methods are applied to these MSI's, the working group does not consider the ramifications of operating the aircraft in an unsafe environment.

For example: When the MSG-3 logic questions address GPWS, the safety route will not be selected for the question, "does the functional failure or secondary damage resulting from the functional failure have a direct adverse effect on operating safety?" The explanation is that failure of this system will not have a "direct adverse effect on safety" (see MSG-3 glossary)

If the working group were to consider the system as a "watchdog" and that the aircraft was being flown in the operational environment, which this system was designed to protect against (or prevent) by producing an alert (warning light/aural tone), the safety route would be selected. Subsequently, a maintenance task would be crated to ensure system availability.

Recommendation: Establish MRB Policy to require working groups to consider that the aircraft is flying in the operational environment (which would require a warning) when assessing the consequence of failure for these protective systems.

IMRBPB Position:

October 20th, 2005

Note: FAA confirms that question to be considered in this issue is question 3 and not question 2 for level 1 as mentioned in the text.

PB considers that MSG 3 adequately covers this issue.

Status: Closed

Important Note: The IMRBPB positions are not policy. Positions become policy only when the policy is issued formally by the appropriate National Aviation Authority. (JAA, FAA or TCCA)

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