U.S.Department
of Transportation
Federal Aviation
Administration

Policy Statement

Subject: Risk Assessment Methodology for Transport Category Airplanes

Date: DRAFT

Initiated By:
AIR-600

Policy No:
PS-AIR-25-05-R1

1 SUMMARY

This policy statement (including its attached handbook) outlines the methodology for conducting risk analyses within the Aircraft Certification Service (AIR). Specifically, it highlights the use of the Transport Airplane Risk Assessment Methodology (TARAM) as part of the Safety Management System (SMS). FAA Order 8110.107B, "Monitor Safety/Analyze Data," provides the requirements and guidance for a standardized, SMS-based, continued operational safety (COS) process. The TARAM process outlined within the attached TARAM Handbook is used by AIR certification branches for product-specific risk analysis to resolve COS issues for transport category airplanes.[1]

2 CANCELLATION

This policy cancels PS-ANM-25-05, "Risk Assessment Methodology for Transport Category Airplanes," dated November 4, 2011.

3 CURRENT REGULATORY AND ADVISORY MATERIAL

3.1 The following title 14, Code of Federal Regulations (14 CFR) parts provide the regulatory requirements applicable to transport category airplane COS issues and mandatory corrective actions to address unsafe conditions addressed by Airworthiness Directives (AD). You can download the full text of these regulations from the Federal Register website at www.ecfr.gov.

- Part 21, "Certification Procedures for Products and Articles."
- Part 39, "Airworthiness Directives."
- Part 91, "General Operating and Flight Rules."
- Part 121, "Operating Requirements: Domestic, Flag, and Supplemental Operations."

[1] COS risk analyses for engine and propeller, small airplane, and rotorcraft issues will be accomplished using the applicable product-specific methodology.

- Part 135, “Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft.”

3.2 Advisory Circular (AC) 39-8, “Continued Airworthiness Assessments of Powerplant and Auxiliary Power Unit Installations of Transport Category Airplanes,” is related to the guidance in this policy statement. The latest version of the advisory circular referenced in this document is available on the Dynamic Regulatory System.

3.3 FAA Order 8110.107B, “Monitor Safety/Analyze Data”, is related to the guidance in this policy statement. The latest version of the policy statement referenced in this document is available on the Dynamic Regulatory System.

4 RELEVANT PAST PRACTICE

Prior to the issuance of the TARAM Handbook, no formal process, guidance, or policy was in place for transport category airplane COS risk analyses beyond that contained in AC 39-8 for powerplant COS. Transport category airplane COS risk determinations were based on engineering judgment and, to a lesser extent, derived very loosely from the certification guidance given in AC 25.1309-1B, “System Design and Analysis.” To address this issue, the AIR SMS MSAD team created a standardized COS process to use in identifying and resolving COS issues as documented in FAA Order 8110.107. The risk-assessment methodology and risk guidelines used in the COS process for transport category airplanes are found in the attached TARAM Handbook.

5 POLICY

5.1 FAA Order 8110.107B requires AIR to use the TARAM (for transport category airplanes) with units convertible to fatal accidents to calculate the quantitative probability, severity, and risk value for each important outcome.

5.2 It is important that the public and affected design approval holders (DAHs) know how the risk associated with transport category airplane COS issues are analyzed within the MSAD process. DAHs may perform all or part of the TARAM process pursuant to a negotiated COS management agreement. In those cases, the DAH will need to understand the details of the TARAM contained in the TARAM Handbook.

Note: For the purposes of public and DAH awareness, review, and comment, the TARAM Handbook is intended as a job aid for FAA aviation safety engineers.

6 EFFECT OF POLICY

6.1 The contents of this policy statement do not have the force and effect of law and are not meant to bind the public in any way. This policy statement is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

6.2 This policy statement does not constitute a new regulation. Agency employees and their designees and delegations should not depart from this policy statement without the concurrence of the policy issuing office. The authority for FAA employees and designees to deviate from this policy is delegated to the Director of the Policy and Standards Division.

6.3 This policy statement does not change or contravene the guidance in AC 39-8. For issues related to powerplant or auxiliary power unit (APU) COS, refer to AC 39-8 for the recommended methodology for identifying, analyzing, prioritizing, and resolving unsafe conditions on transport category airplane power plants and APUs.

6.4 The TARAM Handbook provides guidance for considering risk as a factor when determining whether a condition found in the transport category airplane fleet is safe or unsafe. This policy statement is one of several factors in the safety decision-making process. It does not, by itself, determine an unsafe condition, nor does it restrict the FAA's authority to make such determinations.

6.5 The TARAM Handbook, in conjunction with FAA Order 8110.107B, guides and standardizes transport category airplane-related COS safety decision-making. However, in some scenarios in FAA Order 8110.107B, an AD can be issued prior to performing the TARAM process.

6.6 DAHs should expect that regulating officials will consider this policy when making safety findings and issuing ADs. This statement of policy identifies one means, but not the only means, of accomplishing safety decision-making.

7 IMPLEMENTATION

This policy discusses risk assessment methods that should be applied during the COS decision-making process for transport category airplanes certificated in the United States, except where the guidance of AC 39-8 is applicable.

8 CONCLUSION

AIR certification branches will use TARAM within the MSAD process for product-specific risk analysis and risk management to resolve COS issues for transport category airplanes. DAHs may also use this methodology, in whole or in part, by agreement with the applicable AIR certification branch.

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