

Special Emphasis Items

Between
the Civil Aviation Administration of Israel (CAAI)
and
the Federal Aviation Administration (FAA)

1 Authorization

This document supplements the Implementation Procedures for Design Approval, Production and Surveillance Activities, Export Airworthiness Approval, Post Design Approval Activities, and Technical Support Between Authorities (Implementation Procedures for Airworthiness or IPA) between the CAAI and the FAA.

2 Purpose

- 2.1 This document outlines the CAAI's Special Emphasis Items (SEI) with the FAA, as referenced in section 3.5.3.3(a) of the IPA. These SEIs are one component of the safety elements defined in IPA section 3.5.3 and are used to determine the applicable validation process, and also to establish both the scope and depth of validating authority (VA) technical review in projects subject to the limited technical validation (LTV) process, as defined in IPA section 3.1.8.3(c)(2).

3 Special Emphasis Items

3.1 14 CFR Part 25 aircraft

- 3.1.1 For type certificate (TC) and supplemental type certificate (STC) projects, including amended TC and amended STC projects, the following SEIs apply:
- 3.1.1.1 Human factors. Traditionally accepted assumptions related to human factors are safety-related concerns with developing methods of compliance and some inherent subjectivity. This applies to projects for which § 25.1302, § 25.1322, or human factors aspects of §§ 25.1309, 25.1329, or 25.1523 are affected.
 - 3.1.1.2 Aeroelastic Stability (Flutter). Aeroelastic stability is complex and evolving, with multiple issues. This applies to projects for which § 25.629 is an affected regulation.
 - 3.1.1.3 Damage Tolerance and Fatigue. The showing of compliance with fatigue and damage tolerance requirements is a complex task, with many issues to be considered, and with various possible compliance approaches. This applies to projects for which § 25.571 is an affected regulation.
 - 3.1.1.4 Safety Assessment & Development Assurance. There are safety related concerns in the area of critical systems for which §§ 25.671, 25.672, 25.901(c), 25.903(d), or 25.1309 are affected regulations and include human factor considerations. Part 25 applicants increasingly implement

Development Assurance (DA) processes that use SAE Aerospace Recommended Practice ARP4754A and ARP4754B as guidelines or show their previously established processes produce an equivalent outcome that meets the objectives of ARP4754A and ARP4754B.

- 3.1.1.5 Operation Tests. Certification Authorities for Transport Airplanes (CATA) drafted a harmonized approach, which has been applied to projects by FAA, ANAC, TCCA, and EASA. That approach is documented in CATA worksheet items (CWI) Decision Document FAA-005. This applies to projects for which § 25.683 is an affected regulation.
- 3.1.1.6 Airplane Security (Physical Security Measures). Airplane security is a safety risk item. This item applies to any project involving any airplane design security measure, including, but not limited to, the following specific issues: inflight passenger access to checked cargo, secondary flight deck door, chemical oxygen generators. This applies to projects for which §§ 25.795, 25.1450(b)(3), or SFAR No. 111 are an affected regulation (as well as Network Security issues, listed separately).
- 3.1.1.7 Flammable Fluid Fire Protection. Published guidance is not yet available for flammable fluid fire protection regulations. This applies to §§ 25.863, 25.1187, and other relevant regulations.
- 3.1.1.8 Fire protection of flight controls, engine mounts, and other flight structure. Published guidance is not yet available for definition of fire in the fire zone. This applies to projects which § 25.865 is an affected regulation.
- 3.1.1.9 Powerplant Fire Protection. AC 20-135 is not sufficient in regard to post-fire-test residual flame criteria for fireproof and fire-resistant criteria. In addition, published guidance is not available to address the areas required to be fire resistant by § 25.867. The determination of the affected surfaces, including moveable surfaces in the appropriate configuration, needs to be understood in complying with § 25.867. This applies to §§ 25.867, 25.1191, 25.1205, and 25.1183(c).
- 3.1.1.10 Uncontained Engine Rotor Failure (UERF). The published guidance in AC 20-128A may not be sufficient to show compliance to §§ 25.903(d)(1) and 25.1725(b). The showing of compliance with the requirement to minimize risk is a complex task, with many issues to be considered, and with various possible compliance approaches.
- 3.1.1.11 Fuel Feed System Icing Threats. An in-service accident has occurred indicating the methods that have been used for determining compliance to §§ 25.951(c) and 25.952(a) are insufficient. Icing in the engine fuel system may result in failure to achieve a commanded thrust, which can lead to a forced landing. Sufficient guidance does not exist. An issue paper may be needed.
- 3.1.1.12 Fuel System Lightning Protection. Applicants on which projects apply § 25.954 at amendment 25-146 have limited experience applying the new rule and guidance.
- 3.1.1.13 Composite Wing and Fuel Tank Structure. Adequate guidance does not exist for composite wing and/or fuel tank structure for §§ 25.903(d), 25.963,

25.967, and 25.969. In addition, special conditions are necessary for post-crash fire survivability.

- 3.1.1.14 Fuel Tank Vents. There is limited experience applying the new standard, § 25.975(a)(7).
- 3.1.1.15 Fuel Tank Ignition Prevention. This is a safety issue needing CAAI involvement in multiple aspects, including ensuring the correct amendment level and methods of compliance are applied for fuel tank ignition prevention, fuel tank flammability, and CDCCLs. Applies to any project for which §§ 25.981, 26.33, 26.35, 26.37, or 26.39 is an affected regulation.
- 3.1.1.16 Fuel System Lines and Fittings. Harmonization issues exist, and no current guidance is available. This applies to § 25.993.
- 3.1.1.17 Induction System Icing Protection. The published guidance in AC 20-147A is not sufficient for compliance with § 25.1093. The following aspects may require CAAI involvement:
 - Establishing the means of compliance to clarify the need for protection of the engine during icing conditions at all engine power settings, including in-flight idle conditions, and the regulatory need for consideration of the airframe as part of the engine inlet.
 - A means of compliance to address falling and blowing snow.
 - A means of compliance to describe that flight testing may be needed to sufficiently validate an analytical compliance demonstration to in-flight evaluating mixed phase and ice crystal icing (ICI) conditions. Means of compliance for ICI conditions is evolving and engineering judgement is required to determine if an applicant has sufficiently validated their analytical methods.
- 3.1.1.18 Induction System Ducts and Air Duct Systems. The guidance for § 25.1103 is not sufficient, and alternate methods of compliance or equivalent safety findings may be necessary.
- 3.1.1.19 Inflight All Engine Restart. Published guidance includes CWI Decision Document TCCA-002 to address engine restart following loss of all engine power (§§ 25.671(d), 25.903(e), 25.1351(d), and 25.1585(a)(3)). This issue applies to all airplanes powered by high bypass engines, engines with free power turbines, or with limited restart capability.
- 3.1.1.20 Oxygen Equipment and Supply. Applies to §§ 25.1441(b) and 25.1441(d). New certification guidance has been recently issued, and additional guidance is in draft. The CAAI needs to be involved in the review of the oxygen hazard analysis for 25.1441(b).
- 3.1.1.21 Network Security. Airplane security is a safety risk item. This item applies to aircraft electronic system security isolation or protection from internal and external access. Currently required via special conditions.
- 3.1.1.22 Ditching Loads. Water impact conditions are not fully defined in the subject requirements. If certification with ditching provisions is requested, the CAAI needs to be involved in compliance to §§ 25.801 and 25.563, and the ditching requirements of § 25.561.

- 3.1.1.23 New, novel or unusual materials or manufacturing processes. For relatively new, novel, or unusual materials and manufacturing process, such as additive manufacturing, welding (thermoplastic composites, laser beam, friction stir welding), the use of ceramic material or magnesium alloys, where limited experience has been gathered so far, it needs to be understood how the applicant is complying with the applicable requirements, §§ 25.603, 25.605, and 25.613. Note: Completely new, novel, or unusual materials and processes will automatically lead to non-basic classification.
- 3.1.1.24 Certification of Structural Elements in Flight Control Systems. Applies only to structural elements in flight control systems in showing compliance to §§ 25.571, 25.671, and 25.1309. FAA issued Policy Statement PS-ANM-25-12 in 2015. This Policy Statement provides guidance for certifying structural elements in flight control systems. Because of the unique nature of structural elements in systems, which act as both structure and as part of a system, additional guidance is needed on the appropriate application of fatigue and damage tolerance requirements and system safety requirements. The FAA policy provides examples of structural elements that are subject to these regulations and provides guidance on compliance.
- 3.1.1.25 Cabin Safety considerations. Finding compliance to the requirements of §§ 25.561 & 25.562 can often require some potentially subjective engineering judgement. Past experience has shown gray areas exist when determining test result compliance.