

Federal Aviation Administration
Flight Standards Service
Air Carrier Training Aviation Rulemaking Committee (ACT ARC)

ACT ARC Recommendation 20-4

FAA Entry Point for Certification Applications with Operational Impacts

I. Submission

The recommendation(s) below were submitted by the Flight Standardization Board Workgroup (FSB WG) for consideration by the Air Carrier Training Aviation Rulemaking Committee (ACT ARC) Steering Committee at F2F-22, March 4-5, 2020. The ACT ARC Steering Committee adopted the recommendations, and they are submitted to the Federal Aviation Administration (FAA) as ACT ARC Recommendation 20-4.

II. Statement of the Issue

The FAA asked the ACT ARC to examine whether the FAA should reconsider its Flight Standardization Board (FSB) Operational Evaluation (OE) process and, if so, to recommend what elements should be included and what standards should be used to ensure consistent conduct of OEs. The ACT ARC established the FSB WG to complete this FAA-initiated tasking. The FAA Aircraft Evaluation Groups (AEG) have a critical role within the Flight Standards Service (AFX). Guidance and policy focused on the AEG Inspector workforce is, however, limited almost exclusively to FAA Order 8900.1, which, along with AC 120-53, deals only with processes within AFX. No AFX guidance exists with respect to activity and processes required for AEG inspectors to support the AEG's responsibilities to the Aircraft Certification Service (AIR). The addition of guidance and policy describing robust and coordinated activities with AIR would greatly enhance the AEG's ability to fulfill its responsibilities to provide operational oversight of the FAA's certification projects.

The proposed recommendations and supporting rationale below suggest an effective strategy to address this area of concern.

III. Proposed Recommendation(s)

The ACT ARC recommends the FAA consider the following actions:

1. For a design application for a new aircraft (new Type Certificate (TC)) or a derivative aircraft (Same TC)—
 - a) Create, as part of the FSB process, a specific aircraft certification application “entry point” in the FAA’s Aviation Safety organization (AVS). Under this proposal, AVS would act as a clearing house/coordinator for all initial reviews, dispositions, and notifications to appropriate AIR and AFX personnel; or
 - b) If the actions recommended under 1.a are not possible, enhance the current “entry” process and task the AIR Certification Program Managers coordinating formal engagement of AIR and AEG management (AEG-100 and the appropriate AEG) as well as technical subject matter experts (SME).
2. In addition to item 1, above, for a design application for a derivative aircraft (Same TC)—

- a) Develop a specific list of data to be submitted by the applicant/original equipment manufacturer (OEM) to support assessment of any effects of the design modifications on operational data within the scope of the FSB (pilot type rating, pilot training, operational suitability). This list should include any OEM developed information concerning—
 - i. Design attributes that might impact the operational data;
 - ii. OEM determinations of level of impact, and data used to make those determinations; and
 - iii. OEM determination data (if any) for attributes found to have no impact.
- 3. For a design application for aircraft modification (MOD) or Supplemental Type Certificate (STC) (same TC)—
 - a) The FAA should develop an internal FAA procedure to process, review, and approve any effects of MODs and STCs on operational data within the scope of the FSB. This process must be robust and timely enough to support the large and disparate number of MODs and STCs for operating aircraft that are submitted on a continual basis. This process should include—
 - i. Discussions between AIR and AFX to link certification projects assigned to various Aircraft Certification Offices (ACO) with the appropriate AEG for timely reviews of certification applications, FSB evaluations (if necessary), and approvals; and
 - ii. FAA determination of a standard AIR/AFX system of STC review and approval.
 - b) Initiate discussions with the European Union Aviation Safety Agency (EASA) and other bilateral partners, as well as the OEMs for which they provide oversight, with a goal of determining/developing criteria for the classification of major/minor change levels of operational data related to Aircraft MODs and STCs. Such criteria would reduce unnecessary internal FAA workload, make efficient use of OEM product knowledge, and increase the efficiency and safety impact of MODs and STCs through timely service entry. The inclusion of discussions with bilateral partners and the use of validation principles would enhance harmonization and increase safety by allowing more efficient and consistent use of both regulator and OEM resources.
 - c) With respect to the EU/US relationship, review the current EASA Operational Suitability Determination (OSD) principles and use the provisions of the EU-US bilateral agreement with a goal of reducing duplication of operational evaluations and focusing on the FAA involvement on risk areas (“safety emphasis items”) when acting as a validating authority with respect to EASA OSDs.

IV. Rationale and Discussion

The AEGs were established to meet the FAA's operations and maintenance responsibilities during the type certification process. As a result, the AEGs work directly with AIR personnel to contribute an operational perspective to certification activities. This perspective also demands specific consideration of the operational impact of all aspects of design certifications applicable to individual aircraft that have an impact on pilot training and qualification requirements, as well as operational suitability.

FAA Order 8110.4C, Change 6, addresses this certification role and its relationship to certification projects and their AIR Program Manager (PM), but does not go into significant detail. Specifically defined and coordinated AIR and AFX processes for the interaction of design and operational aspects of an FAA certification project would help to clarify the roles and responsibilities of each office. Specifically, an AVS-level process to assure that all certification projects are reviewed by the appropriate AEG or any other AVS entity for operational impacts would ensure coordination in the face of the increasing number and complexity of aircraft and aircraft system designs (particularly MODs and STCs) presented to the FAA for certification.

The recommendations provided in this document about integrated AEG/FSB activities are complementary to input from the Department of Transportation Special Committee, Joint Authorities Technical Review (JATR), and Safety Oversight and Certification Aviation Rulemaking Committee (SOC ARC). This recommendation also supports the SOC ARC's Recommendation 3.2.1 "Aircraft Type Certification Program Management". In that recommendation, which focused on regulatory requirements associated with type certification that are performed by the AEG, the SOC ARC recommended that AIR and AFX manage and coordinate the type certification process more effectively from the beginning of a program and that the role of AFX be more clearly defined in FAA guidance.

V. Background Information

ACT ARC Recommendation 20-4 addresses Item 1 in the FSB WG Scope of Work and ACT ARC Initiative #43 (see below):

FSB WG Scope of Work:

1. Examine whether the FAA should reconsider its current process of an FAA operational evaluation.
 - a. If the WG decides that the FAA should reconsider, the WG should examine the possible alternatives to the current process.

ACT ARC Initiatives:

- Initiative #43: Examine how the FAA could improve its current Flight Standardization Board (FSB) Process and product (FSB Report) to meet the interests of all stakeholders.

Source Reports

Safety Oversight and Certification Aviation Rulemaking Committee (SOC-ARC)
Recommendation Report to the Federal Aviation Administration, December 31, 2018.

References

- FAA Advisory Circular 120–53B, change 1, October 24, 2016.
- FAA Order 8110.4C, Change 6, March 6, 2017.
- FAA Order 8900.1.
- Safety Oversight and Certification Aviation Rulemaking Committee (SOC-ARC)
Recommendation Report to the Federal Aviation Administration, December 31, 2018,
Recommendation 3.2.1 *Aircraft Type Certification Program Management*.