



Committee on Transportation and Infrastructure
U.S. House of Representatives

Washington, DC 20515

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January 16, 2015

SUMMARY OF SUBJECT MATTER

TO: Members, Committee on Transportation and Infrastructure
FROM: Staff, Committee on Transportation and Infrastructure
RE: Committee Hearing on “FAA Reauthorization: Reforming and Streamlining the FAA’s Regulatory Certification Processes”

PURPOSE

The Committee on Transportation and Infrastructure will meet on Wednesday, January 21, 2015, at 10:00 a.m. in 2167 Rayburn House Office Building to discuss the Federal Aviation Administration’s (FAA) aircraft and flight standards certification processes. In preparation for the next FAA reauthorization, the Committee will hear witnesses’ testimony on FAA’s certification processes, progress the FAA has made to streamline the processes since the last reauthorization, and areas in need of additional reform. The Committee will receive testimony from industry representatives, the Government Accountability Office (GAO), the National Transportation Safety Board (NTSB) and the FAA.

I. FAA Certification Processes

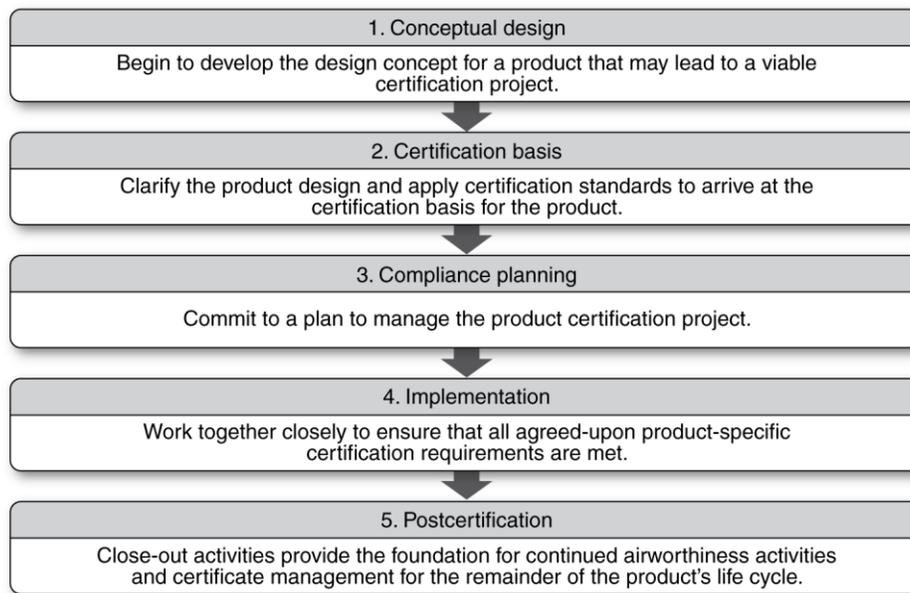
FAA’s Office of Aviation Safety houses two offices that handle certification issues: the Aircraft Certification Service (AIR) and the Flight Standards Service (AFS).

Aircraft Certification Service

The FAA is responsible for issuing type and manufacturing certificates for aircraft, aircraft engines and propellers, as well as aircraft parts and appliances (aircraft and aircraft components). To ensure the safety of aircraft and aircraft components the FAA has developed a set of safety standards for aircraft and aircraft components. In exercising its discretion, the FAA has a system of compliance review that involves the certification of the design and manufacture of aircraft and aircraft components. Under this process, the duty to ensure that aircraft and aircraft components conform to FAA safety regulations lies with the manufacturer and operator, while the FAA retains responsibility for overseeing compliance. Thus, the manufacturer is required to (1) develop the plans and specifications and (2) perform the inspections and tests

necessary to establish that an aircraft design comports with the regulations; the FAA then reviews the data by conducting a risk-based review of the manufacturer’s work. If the FAA finds that a proposed new type of aircraft and aircraft component comports with minimum safety standards, it signifies its approval by issuing a type certificate. If the design of a component or system is not directly addressed by existing regulations, the FAA issues one or more special conditions, which are subject to public notice and comment, to ensure the component or system design provides an acceptable level of safety. Figure 1 provides a basic overview of key FAA aircraft certification processes.

Figure 1: Key Phases in Aircraft Certification’s Process for Approving Aviation Products¹



Source: FAA.

Type Certificate

When a new aircraft or aircraft component design is being proposed, the applicant must first apply to the FAA for a type certificate. The applicant must show that the proposed design meets the applicable existing airworthiness requirements. The regulations provide for the issuance of special conditions when the Administrator finds that the airworthiness standards do not contain adequate or appropriate safety standards because of novel or unusual design features of the product to be type certificated. In order to receive a type certificate, the applicant must conduct a series of tests and reviews to show that the product is compliant with existing standards and any special conditions issued by the FAA.

¹ Government Accountability Office. “Aviation Safety: Status of Recommendations to Improve FAA’s Certification and Approval Process.” GAO 14-142T. October 30, 2013. Subcommittee on Aviation, United States House of Representatives.

Production Certificate

Along with seeking a type certificate, the applicant can simultaneously seek a production certificate from the FAA. A production certificate is an approval by the FAA to manufacture duplicate products of the type design approved by the type certificate. Before approving a production certificate, the FAA will review the manufacturer's quality control systems against regulatory and policy requirements. The holder of the production certificate is responsible for the quality of all parts, even those that are not specifically manufactured by the production certificate holder. Aircraft parts can obtain a parts manufacturing approval, which is equivalent to a production certificate but is only for one specific part.

FAA Modernization and Reform Act of 2012: Section 312: Aircraft Certification Process Review and Reform

The FAA Modernization and Reform Act of 2012 (Reform Act) contains two provisions addressing the FAA's certification process. Section 312 requires the FAA to conduct an assessment of the certification approval processes and develop recommendations to improve efficiency and reduce costs through the streamlining and reengineering of the certification process. After developing the recommendations, the Administrator is required to submit a report to Congress containing the results of the assessment and an explanation of how they will implement the recommendations contained in the report. Section 312 also directed the FAA to begin implementing the recommendations by February 2013.

The FAA released its initial implementation plan on January 7, 2013 to address the recommendations.² The FAA is currently addressing six recommendations that were developed in consultation with industry with the establishment of the 312 Aviation Rulemaking Committee (312 ARC) and included in the report. They include:

1. Develop a comprehensive means to implement and measure the effectiveness of implementation and benefits of certification process improvements;
2. Enhanced use of delegation;
3. Develop an integrated Roadmap and vision for certification process reforms;
4. Update part 21 to reflect a systems approach for safety;
5. Develop and implement a comprehensive change management plan; and
6. Review and implement process reforms and efficiencies needed for other aircraft certification service functions.

In addition to a number of milestones the FAA has developed to address the initiatives in the plan in the May 14, 2013 update, the FAA added measures of effectiveness to each initiative. Since publishing the initial implementation plan, the FAA has issued six updates outlining the progress the agency has made in implementing the initiatives that resulted from the 312 ARC. FAA's January 6, 2015 update of the implementation plan states that eight of the fourteen initiatives are completed, three initiatives will not meet the timeline for the end milestones, and

² Federal Aviation Administration. "Detailed Implementation Plan for The Federal Aviation Administration Modernization and Reform Act of 20120 Public Law No. 112-95 Section 312." January 7, 2013.

one initiative is in danger of going off schedule.³ The three initiatives which FAA's plan states will not meet their milestone deadlines are; Part 23 reorganization⁴, update Part 21⁵, and consistency of regulatory interpretation.⁶

Aircraft Certification Prioritization

In response to one of the 312 ARC recommendations, on September 15, 2014, the FAA issued a new standard operating procedure (SOP) for the aircraft certification process. The Aircraft Certification Service (AIR) Project Prioritization Process (prioritization process) contains the guidelines for “prioritizing certification projects and managing certification project resources” within the AIR.⁷ The goal of this new FAA process is “focusing FAA resources on safety but with an approach that allows work to begin without delay” once the applicant submits a complete application.⁸ Under this new process, “when a certification project is initiated, the aircraft certification office responsible determines the project's priority and related task response times” (also known as office flow time.)⁹ In the previous process, FAA workload was managed by delaying whole projects until FAA resources were available, which led to applicants potentially experiencing long delays and inability to anticipate when FAA would begin work on a certification project. With this new prioritization process, the applicant can begin those parts of the project for which the FAA has resources available or for which FAA action is not required. For those parts of the project for which FAA resources are not available at the time of initiation, the FAA will notify the applicant of the length of time it will take for that resource to become available. If the local project office is unable to support a task within the predetermined response time, the FAA will use resources across AIR to complete the task.

FAA Flight Standards' Certification Processes

The Flight Standards Service sets the standards for certification and oversight of airmen, air operators, air agencies, and designees.¹⁰ It conducts certifications, inspections, surveillance, investigations, and enforcement actions, and manages the system for registration of civil aircraft and all airmen records. Flight Standards is responsible for issuing certificates and approvals for airmen, air operators, air agencies, commercial air carriers, repair stations, designees, and pilot schools. These certificate actions are handled by over 100 FAA field offices and roughly 4,000 flight standards inspectors. Flight Standards, in conjunction with the Aircraft Certification office, is responsible for continued oversight of (1) operational safety of certificate holders, (2)

³ Federal Aviation Administration. “Detailed Implementation Plan for The Federal Aviation Administration Modernization and Reform Act of 20120 Public Law No. 112-95 Section 312.” January 6, 2015.

⁴ The *Small Aircraft Revitalization Act of 2013* (P.L. 113-53) which was signed into law on November 27, 2013, directed the FAA to develop a final rule meeting certain consensus-based standards and FAA Part 23 Reorganization Aviation Rulemaking Committee objectives by December 15, 2015. However, the FAA's implementation plan for 312 states that the final rule will be issued in September 2017.

⁵ This initiative addresses the policy and guidance that AIR is developing to align with a systems approach to certification as the FAA works to issue a safety management system rule.

⁶ The initiative addresses the implementation Plan for Section 313 of the Reform Act.

⁷ Federal Aviation Administration. “Standard Operating Procedure Aircraft Certification Service Project Prioritization and Resource Management.” AIR-100-ALL-005. Effective date. Sept 15, 2014.

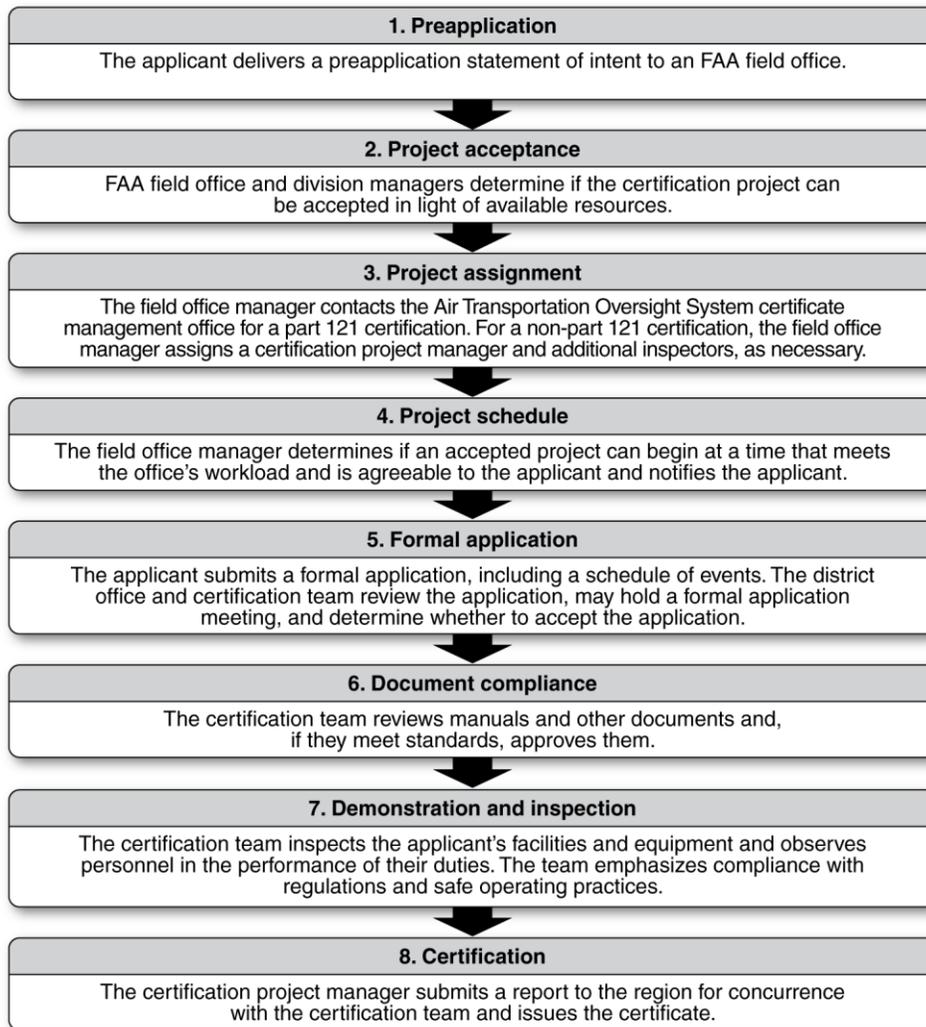
⁸ *Id.*

⁹ *Id.*

¹⁰ See http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/.

designees, (3) air operators, and (4) air agencies’ operation and maintenance. Figure 2 shows the process by which Flight Standards carries out their duties.

Figure 2: Key Steps in Flight Standards’ Process for Issuing Certificates to Air Operators and Air Agencies¹¹



Source: FAA.

Organization Designation Authorization

In order to ensure that all parts meet quality standards, the FAA also has the ability to issue a company an Organization Designation Authorization (ODA). The ODA Program, established by the FAA in 2005, allows a company to set up an organization of airworthiness representatives (AR) who act on behalf of the FAA. The FAA can grant ODAs to manufacturers and repair stations. According to FAA, there are currently 82 ODA holders (71 manufacturers and 11 repair stations).

¹¹ Government Accountability Office. “Aviation Safety: Status of Recommendations to Improve FAA’s Certification and Approval Process.” GAO 14-142T. October 30, 2013. Subcommittee on Aviation, United States House of Representatives.

The FAA, in conjunction with the approved ODA, develops a manual which specifies the procedures, processes, and practices to be used. The ARs are authorized by the FAA to carry out routine certification actions. FAA inspectors have the authority to perform any of these activities themselves should they wish to, or they can delegate the responsibility to the AR. An AR is approved by the FAA after going through a review process and is responsible for ensuring the manufacturers' compliance with FAA standards. The FAA has multiple processes that must be met to ensure that a new aircraft meets the standards of aircraft design and manufacturing. Ultimately, the FAA remains responsible for safety oversight. According to GAO, FAA's designees perform more than 90 percent of FAA's certification activities.¹² In April 2013 testimony, the GAO mentioned the concerns they had raised in their 2010 study with the lack of FAA oversight over the designees, particularly with new ODAs.¹³ However in October 2013, the Department of Transportation Office of Inspector General (DOT OIG) testified that since their 2011 report on ODAs the FAA had "taken steps to improve its aircraft certification process and ODA program oversight." Furthermore, the DOT OIG testified that "given the expected continued growth of the aviation industry, effectively using ODA will be key to managing FAA's resources and meeting the industry's certification needs. However, it remains critical that adequate oversight controls are in place to ensure that qualified individuals are properly certifying critical aircraft components."¹⁴

FAA Modernization and Reform Act of 2012: Section 313: Consistency of Regulatory Interpretation

The second provision in the Reform Act addressing certification, Section 313, requires the Administrator to establish an advisory panel of government and industry representatives to review the GAO's October 2010 report¹⁵ on certification and approval processes and develop recommendations to address GAO's findings and other concerns raised by interested parties. In addition, the Advisory Panel was tasked with developing plans to increase consistency of interpretation of regulations by Flight Standards Service and Aircraft Certification Service.

The FAA chartered an ARC (313 ARC) on April 30, 2013 and tasked it with reviewing the GAO report, determining the root causes of inconsistent interpretations and developing recommendations. On July 19, 2013, the FAA submitted the advisory panel's report to Congress.¹⁶ The 313 ARC recommended the FAA should:

¹² General Accountability Office, Aviation Safety: FAA Efforts Have Improved Safety, but Challenges Remain in Key Areas, GAO-13-442T (Washington, D.C.: April 16, 2013), p. 3-4.

¹³ *Id.*

¹⁴ Statement of Jeffrey B. Guzzetti Assistant Inspector General for Aviation Audits U.S. Department of Transportation Before the Committee on Transportation and Infrastructure, Subcommittee on Aviation, United States House of Representatives, October 30, 2013.

¹⁵ U.S. Government Accountability Office "GAO-11-14, Aviation Safety: Certification and Approval Processes Are Generally Viewed as Working Well, but Better Evaluative Information Needed to Improve Efficiency." October 2010.

¹⁶ United States Department of Transportation, Federal Aviation Administration "Report to Congress: Consistency of Regulatory Interpretation, FAA Modernization and Reform Act of 2012 (P.L. 112-95)- Section 313." July 19, 2013.

1. Review all guidance documents and interpretations to identify and cancel outdated material and cross-reference material to its applicable rule;
2. Develop a standard decision-making methodology for the development of all policy and guidance material to ensure such documents are consistent;
3. Review and revise regulatory training for agency personnel and make curriculum available to ensure the training includes interactive workshops, appropriate initial and recurrent training;
4. Establish a Regulatory Consistency Communications Board (RCCB) with representatives from the FAA to provide clarification to FAA personnel and certificate holders and applicants;
5. Improve the FAA's rulemaking procedures and guidance to ensure each proposed and final rule preamble contains a comprehensive explanation of the purpose, technical requirements, and intent; and
6. Determine the feasibility of establishing a full-time Regulatory Operations Communication Center (ROCC) as a centralized support center to provide real-time guidance to FAA personnel, industry, certificate holders, and applicants.

The FAA planned to submit an Action Plan on implementation of these measures by the end of September 2013, however most recently the FAA has stated that they expect the implementation plan to be released on January 31, 2015.¹⁷

II. International Certification

When a person or company seeks to operate or manufacture aircraft, aircraft components or avionics systems that have been certified by a foreign aviation authority in the United States, the FAA will work to validate that the certification has met specific safety and operational standards.¹⁸ The FAA's validation of foreign certified products is dependent upon its confidence in the foreign aviation authority's certification processes.¹⁹ Through bilateral agreements, the FAA does not always need to put the foreign certification through its own full certification process. Bilateral agreements are concluded only after the FAA has determined, among other things, that the other country's civil aviation authority is competent to make technical decisions about its aircraft's compliance with FAA requirements. According to the FAA, the U.S. has bilateral agreements with over 47 countries, including an agreement with the European Union that covers 28 nations in Europe.²⁰

Manufacturers have reported that they can run into costly challenges when the validation process, either in the United States or in the foreign country, is unnecessarily delayed. During a July 2014 Aviation Subcommittee hearing, some witnesses testified that FAA was losing its "gold standard" in certification matters among safety regulators around the world and that the

¹⁷ Federal Aviation Administration. "Detailed Implementation Plan for The Federal Aviation Administration Modernization and Reform Act of 2012 Public Law No. 112-95 Section 312." January 6, 2015.

¹⁸ Federal Aviation Administration. "Fact Sheet: How the FAA Certifies Foreign Aircraft." "http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=6266

¹⁹ *Id.*

²⁰ Statement Of Margaret M. Gilligan, Associate Administrator for Aviation Safety, Federal Aviation Administration, Before the House Committee on Transportation and Infrastructure, Subcommittee on Aviation, Domestic Aviation Manufacturing: Challenges And Opportunities, July 23, 2014.

FAA must take a stronger leadership role in exporting U.S. aviation standards and facilitating the acceptance of U.S. products throughout the world.

Witnesses:

Panel I

Mr. Ray Conner
President and CEO
Boeing Commercial Airplanes, The Boeing Company

Mr. Aaron Hilkemann
President and CEO
Duncan Aviation

Panel II

The Honorable Chris Hart
Acting Chairman
National Transportation Safety Board

Ms. Dorenda Baker
Director, Aircraft Certification Service
Federal Aviation Administration

Dr. Gerald Dillingham
Director of Civil Aviation Issues
Government Accountability Office