



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: Issue Paper Process

Date: 6/15/2010

AC No: 20-166

Initiated by: AIR-110

Change:

1. Purpose.

a. This advisory circular (AC) provides information on the use of issue papers and gives you guidance on your role in describing and tracking the resolution of significant technical, regulatory, and administrative issues derived from the issue paper process. This document provides guidance to you relative to FAA Order 8110.112, Standardized Procedures for Usage of Issue Papers and Development of Equivalent Levels of Safety Memorandums.

b. This AC is not mandatory and is not a regulation. This AC describes an acceptable means, but not the only means, to comply with Title 14 of the Code of Federal Regulations (14 CFR). However, if you choose to use the means described in this AC follow it in its entirety.

2. Audience. This AC provides guidance to all individuals or entities seeking approval for a type certificate (TC), an amended TC, a supplemental type certificate (STC), an amended STC, type design changes, 14 CFR § 21.305(d) approvals, or parts manufacturer approval (PMA). It also provides guidance for type validation programs.

3. Why We Use Issue Papers.

a. We, the Federal Aviation Administration (FAA), use issue papers when necessary to provide a structured means of accomplishing the necessary steps in the type certification and type validation processes. Type certification includes projects for type certificates, amended type certificates, type design changes, STCs and amended STCs. For FAA approvals such as 14 CFR § 21.305(d) approvals and PMA projects, they can be used, with discretion, in order to document and resolve compliance issues where directorate or policy office guidance is required.

b. Issue papers provide a structured means for describing and tracking the resolution of significant technical, regulatory, and administrative issues that occur during a project. The issue paper process establishes a formal communication for significant issues between you, the applicant, a foreign civil aviation authority (FCAA) if applicable, and the FAA.

c. For type certification projects, issue papers are useful tools for keeping an unbiased uniform certification approach between applicants. Issue papers also form a valuable reference for future type certification programs and for development of regulatory changes. By describing significant or precedent-setting technical decisions and the rationales employed, they are ideal source documents. For example, a certification summary report (if required by the accountable directorate) may be generated by extracting the final issue resolution from the issue papers (omitting any proprietary information).

d. For type validation programs, when the FAA is the validating authority (VA), we use issue papers mainly to address differences between FAA and the certificating authority (CA) airworthiness standards and interpretations. We will also write issue papers on certification basis (G-1 Issue Paper) and other unique import requirements.

4. Types of Issue Papers.

a. **Method of Compliance (MoC).** The most common type of issue paper defines a particular method of compliance that requires directorate or policy office coordination as a result of peculiarities in the type design or the need to define specific conditions and/or establish the environment under which substantiation must be shown.

b. **Equivalent Level of Safety (ELOS).** Equivalent level of safety (ELOS) findings are granted when literal compliance with a certification regulation cannot be shown and compensating factors exist which can provide an ELOS (see 14 CFR § 21.21(b)(1)). Compensating factors are normally any design changes, limitations, or equipment imposed that will facilitate granting the equivalency. An issue paper documents the evolution and conclusion of the request for an ELOS finding.

Note: An ELOS finding and an equivalent safety finding (ESF) have the same meaning.

c. **Proposed Special Condition.** The basis for issuing and amending special conditions is found in 14 CFR § 21.16. Under the provisions of § 21.16, a special condition is issued only if the existing applicable airworthiness standards do not contain adequate or appropriate safety standards for an aircraft, aircraft engine, or propeller, because of novel or unusual design features of the product to be type certificated.

(1) The phrase “novel or unusual” applies to design features of the product to be certificated when compared to the applicable airworthiness standards. Special conditions will not be used to upgrade the applicable airworthiness standards when novel or unusual design features are not involved.

(2) We develop issue papers to address novel design features for which the regulations do not exist or are inadequate. These issue papers are used to develop the basis, need, and wording of special conditions. A special condition contains only the airworthiness standards necessary to establish a level of safety equivalent to that established by the applicable regulations. Special conditions are unique to the specific certification program in which they are issued. The FAA has delegated authority for issuing them to the directorates, or to the Aircraft Engineering Division (AIR-100) for areas of responsibility not assigned to a directorate.

d. Certification basis (G-1) issue papers designate the applicable airworthiness and environmental regulations (noise and environmental findings), including special conditions, that must be met for certification as stated in 14 CFR §§ 21.17, 21.21, 21.25, 21.27, 21.29, or 21.101, as applicable. It also designates applicable Special Federal Aviation Regulations (SFARs), and records any exemptions granted (see 14 CFR § 11.25). This issue paper must provide the definitive justification for selecting the certification basis, including specific amendment levels. An exemption is a temporary or permanent allowable noncompliance with a particular regulation for a specific product.

e. Determination of Compliance (G-2) issue papers provide a statement of our procedural requirements, including those that define your responsibilities for showing compliance. This issue paper is designed to capture the “compliance checklist” which shows the regulatory requirement and the method of compliance proposed by the applicant for each regulation identified in the certification basis. For foreign-manufactured products to be eligible for an import type certificate (TC), you must show, and we must find, that the type design complies with the U.S. type certification basis, G-1. Under bilateral agreements, the exporting civil aviation authority (CAA) may be authorized to approve data used for showing compliance to the requirements in the G-1 issue paper. Therefore, the G-2 issue paper outlines the responsibilities of the applicable exporting CAAs.

f. Environmental Consideration (G-3) issue papers designate the applicable environmental regulations, that is, the regulations establishing standards for aircraft noise and for fuel venting and exhaust emissions for turbine engine powered airplanes.

Note: It is permissible for us to combine the contents of issue papers G-1 thru G-3 into one single master issue paper G-1.

g. Export (Import) Requirements – Country (G-4). For products exported from the U.S., the G-4 issue paper cites our findings of compliance with the importing country’s airworthiness requirements on the importing CAA’s behalf. For products imported to the U.S., the G-4 issue paper establishes the exporting CAA’s function for airworthiness certification, operating matters, and additional compliance findings relative to those defined in the G-1 issue paper.

h. New Information. We can use an issue paper to examine issues that arise from a better understanding of environmental or other hazards that were not well-understood in the past or that did not exist previously. Such items could include new scientific information on weather threats, such as the quantification of microbursts that occurred in the last 30 years, the substantiation of super cooled liquid droplets environment, cabin ozone hazards, and other potential circumstances where the standards were developed without knowledge of a threat that has been recently identified.

i. Type Validation. When the FAA is the validating authority(VA), the FAA validation team writes an issue paper for each validation item (VI). A validation item is a certification item or airworthiness standard of particular interest to the validating authority. VIs identify aspects of the design or proposed method of compliance (MoC) that warrant further technical involvement (beyond familiarization) by the VA. VIs are primarily used to define and explain differences

between the VA airworthiness standards and interpretations and those of the certifying authority (CA) airworthiness standards. We will also write issue papers on certification basis (G-1) and other unique import requirements.

j. Other Types of FAA Approvals (Optional). For other FAA approvals (e.g., PMA and 14 CFR § 21.305(d) or § 21.8 (effective 04/16/2011)) we can use issue papers, with discretion, to document and resolve compliance issues where directorate or policy office guidance is required. PMA issue papers document our mutually agreed upon understanding and approach to certification of a part's design.

k. Unsafe Features or Characteristics that could preclude certification as defined in 14 CFR § 21.21(b)(2).

l. All Other Issues during type certification projects that become controversial or may otherwise require type certification board (TCB) action to resolve. An example of this is the non-standard method/means of compliance proposed by the applicant.

5. What You Need to Know During the Issue Paper Process.

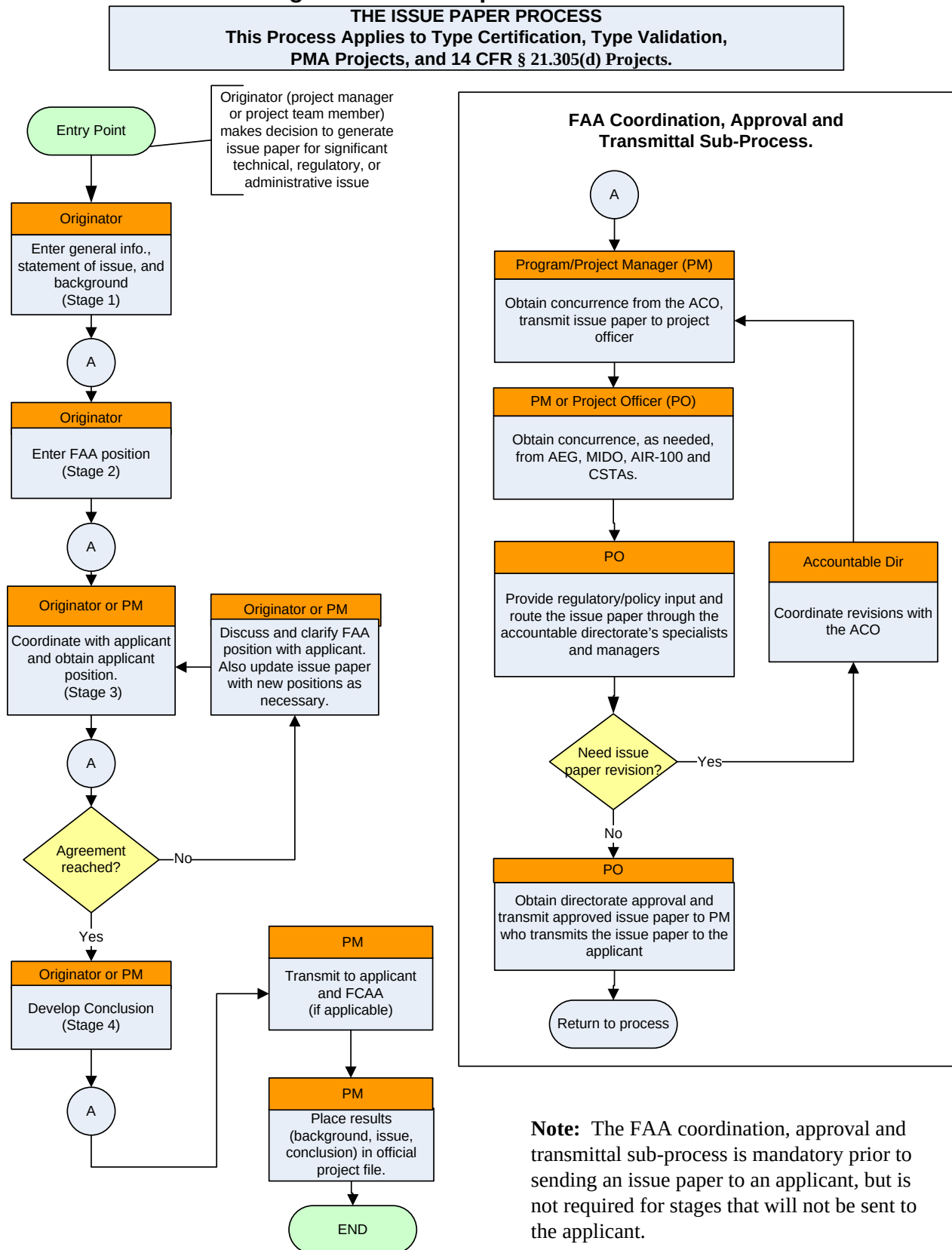
a. If you are an applicant seeking a TC, STC, PMA, or other type design approval, FAA technical personnel will work closely with you to identify any significant issues that may require a special emphasis for resolution. This step will usually require more detailed technical discussions, correspondence, review of design data and hardware.

b. We encourage you to raise questions or issues that may require extra time or special study for resolution so all significant issues are identified as soon as practicable to allow sufficient time for resolution.

c. Simple documentation of a particular method of compliance that is consistent with existing directives, ACs, or other written FAA policy, or that does not fall into one of the common types of issue papers listed in the previous section, does not require an issue paper.

d. Routine items relative to showing compliance and work relationships would not normally be raised as significant issues unless some special problems are anticipated or develop during the course of the program. Decisions and actions will be documented in correspondence, data submittals, and file records of meetings, conversations, and events. In this regard, it is recognized that what may be routine with an experienced applicant may be treated as a significant issue with an applicant who has limited or no current FAA type certification experience.

e. An Organization Designation Authorization (ODA) holder may not approve issue papers. When necessary, the FAA will develop issue papers as a means of resolving certification issues and the ODA administrator must cooperate with the FAA in this process and provide a company position when requested. The ODA manual establishes the procedures necessary for ODAs to coordinate issue papers.

Figure 1. Issue Paper Process Flow Chart

Note 1: This process can be applied to other types of FAA approvals by omitting the usage of TCB or TCBM since PMA projects do not require the creation of a TCB.

Note 2: For 14 CFR part 21 issues consider AIR-100 as the accountable directorate.

Note 3: The ACO program/project manager conducts MIDO/AEG coordination as well as CSTA's coordination, as appropriate.

Note 4: There are certain cases where a Stage 2 issue paper will include an "APPLICANT POSITION" statement prior to the "FAA POSITION" Statement. These cases would include an applicant's request for an equivalent level of safety where the FAA does not have a position until the applicant has made their request. This may also apply when an applicant proposes a new method of compliance that is outside of written FAA policy.

Note 5: PM is the FAA program/project manager.

6. Issue Paper Development. This section covers the development process for issue papers related to type certification projects. This process applies to other types of FAA approvals by omitting the use of a Type Certification Board (TCB) or TCB meeting (TCBM), since PMA projects do not require the creation of a TCB. This section also applies to type validation programs, but again using different terminology. See figure 1 above for the issue paper process flow chart and appendix A for a typical issue paper format.

a. For type certification projects, new issue papers are proposed to the TCB by the program/project manager, or by technical specialists for technical issues in their areas, through the program/project manager at any time during the process before final type certification. Draft issue papers are developed by the project team members for each significant issue as early in the program as practicable. The originator (program/project manager or project engineer) is the individual that will enter the general information, the "STATEMENT OF ISSUE" and the "BACKGROUND" information in the issue paper at Stage 1. When a significant issue pertains to technical policy overseen by AIR-120 or AIR-130, or a significant issue pertains to operational/maintenance suitability requirements overseen by the Flight Standards Service - Aircraft Evaluation Group (AEG) offices; they must be coordinated with when formulating the "FAA POSITION" and "CONCLUSION". For significant issues pertaining to policy overseen by AIR-110, AIR-140, or AIR-150, they must be coordinated with when formulating the "FAA POSITION" and "CONCLUSION". Draft issue papers are developed by the project team members for each significant issue as early in the program as feasible.

b. Ideally, issue papers are proposed at the preliminary TCBM and the "STATEMENT OF ISSUE" section of the issue paper is developed. However, the major emphasis of each issue paper

is to raise the issue to the FAA's and your attention as early as practicable, providing concise "STATEMENT OF ISSUE" language that is understood by all parties concerned with resolution.

c. Overall, the first priority is to identify, rather than resolve, significant issues. It is not expected that all significant issues will be identified or resolved before the TCBM. Quite often, identification of issue papers does not occur until the significant features of the type design are identified later in the certification process. These issue papers are generally issued at Stage 2, which includes the "FAA POSITION" statement. Issue papers should be developed, revised, and concluded as a concerted effort between us, the exporting CAA (if applicable), and you.

d. If you are notified by us of the need for an issue paper, it is expected that the issue paper first introduced to you will also contain the "FAA POSITION" statement that is initially released at Stage 2. However, if controversial aspects and/or the nature of the issue require immediate and formal notification of the issue, the issue paper should be released to you at Stage 1.

e. There will be certain cases where a Stage 2 issue paper will include an "APPLICANT POSITION" statement prior to the "FAA POSITION" Statement. These cases would include an applicant's request for an equivalent level of safety where the FAA does not have a position until the applicant has made their request. This may also apply when an applicant proposes a new method of compliance that is outside of written FAA policy.

f. After you review the issue paper, you should provide us your applicant position in a separate document or letter. At Stage 3 we will incorporate your statements in the "APPLICANT POSITION" block, usually verbatim, when submitted in writing (and/or "the Importing/Exporting CAA POSITION," if applicable). If you do not elect to provide a statement for inclusion in the issue paper, we will state that you declined to make a statement in the "APPLICANT POSITION" block.

g. Progress on significant issues will be indicated by us updating existing issue papers or, if new significant issues are raised, by us developing new issue papers. This is an iterative process involving the applicant and the appropriate FAA offices.

h. Program/project managers are expected to keep the accountable directorate, AIR-100, MIDO, AEG, and the CSTAs, when needed, fully apprised of the technical issues encountered throughout the evaluation process.

i. The program/project manager should obtain accountable directorate assistance in creating the "FAA POSITION" and "CONCLUSION" (Stage 4) before the issue paper is submitted to the project team members for coordination. Directorate team coordination and standards staff manager sign-off on the issue paper is required at any stage of the issue paper that will be released to you.

j. All new or revised issue papers are coordinated with you, the project team members, and the accountable directorate. If coordination with you and project team members happens without impasse, the project ACO will close the issue paper by revising it and will then coordinate it with the accountable directorate without holding a formal TCBM.

k. If an impasse occurs, the ACO manager and/or directorate management should resolve it

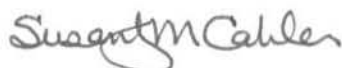
after considering the views of all affected parties. The resulting decision becomes the basis for the FAA position in the issue paper, which is signed by the designated representative of the accountable directorate.

l. Before completing the "CONCLUSION" of the issue paper, we will make every effort to get an agreement with you on the final requirements. These final requirements will be stated in the "CONCLUSION." If further discussions require a revision to your position, you should submit your statements on a separate document or letter and we will revise the issue paper accordingly and respond with a new position. For each revision, the project ACO coordinates it with the appropriate project team members, the accountable directorate, and policy offices, if appropriate.

m. Approval by the accountable directorate of the "CONCLUSION" statement constitutes definition of the FAA requirement. The issue paper may be sent to you directly or through the exporting CAA (ECAA), for foreign projects. If you are not satisfied with the conclusion reached through the issue paper process, further action would require you to seek resolution through other means. The FAA recommends such further discussions, correspondence, or appeals focus on new information or proposals warranting a reconsideration of, and revision to, the issue paper. If the applicant pursues this path, they should refer to the current stage and date of the issue paper.

n. Generally, we do not provide draft copies of issue papers to applicants. However, we may need your help in developing the issue paper. For example, we may request your help to confirm the technical correctness of the "BACKGROUND." Also, it may be necessary for you to review your position as written in the issue paper to determine its accuracy.

o. If you do not comply with the criteria of an issue paper, the project will not be closed and the approval will not be issued. An issue paper may be reopened if a new issue is identified, or at the applicant's request with the concurrence of the project ACO.



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Appendix A. ISSUE PAPER FORMAT

<i>ISSUE PAPER</i>

PROJECT: [Company ABC]
Model [XYZ]
Project # [CCXXXXLL-T]

ITEM:
STAGE:
DATE:

REG.REF.:

**NATIONAL
POLICY REF.:**

ISSUE STATUS: Open

SUBJECT:

BRANCH ACTION:

**COMPLIANCE
TARGET:**

<i>[Issue Paper Type]</i>

STATEMENT OF ISSUE:

BACKGROUND:

FAA POSITION: (Stage __, Date)

IMPORTING/ EXPORTING CAA POSITION: (Stage __, Date)

APPLICANT'S POSITION: (Stage __, Date)

CONCLUSION:

Accountable Directorate
Aircraft Certification Service

Date

CONTACTS:

TITLE	NAME	PHONE
Originator		
Project Manager		
Project Officer		

FILE NAME:

Appendix B. Roles of FAA Offices

1. Accountable Directorate: The aircraft certification directorate with final authority, accountability, and responsibility for type certification programs, the development of airworthiness standards, and development and standardization of technical policy for an assigned product and a specific part of Title 14 of the Code of Federal Regulations (14 CFR). In general, the primary purpose of accountable directorate review is to do the following:

- Be the lead for and ensure standardization of the issue paper by comparing it with similar issue papers from other projects, and
- Provide current policy related to the significant issue.

2. Aircraft Certification Office (ACO): The aircraft certification directorate's engineering operational element. This office administers and secures compliance with agency regulations, programs, standards, and procedures governing the type design of aircraft, aircraft engines, or propellers. The term "ACO" also refers to the Engine Certification Office (ECO), the Rotorcraft Certification Office (RCO) and the Special Certification Office (SCO), and the Military Certification Office (MCO).

3. Aircraft Engineering Division (AIR-100): Is responsible for the development and standardization of regulations, national directives, policy, procedures, and advisory material for continued operational safety, type certification, design approval, and for authorization and oversight of representatives of the Administrator for civil aeronautical products. Technical policy or procedural policy is overseen by the AIR-100 branches: Certification Procedures Branch (AIR-110), Technical Programs Branch (AIR-120), Avionics Systems Branch (AIR-130), Delegation and Airworthiness Programs Branch (AIR-140) or Safety Management Program Branch (AIR-150)). The project ACO must coordinate with when formulating the "FAA POSITION" and "CONCLUSION".

4. Aircraft Evaluation Group (AEG): Assigned to each aircraft certification directorate, address Flight Standards considerations during type certification, evaluate operational and maintenance aspects of certification, and evaluate continuing airworthiness requirements of newly certificated or modified products and parts. When a significant issue pertains to operational and maintenance aspects, the AEG must be coordinated with when formulating the "FAA POSITION" and the "CONCLUSION" stages.

5. Certificate Management ACO (CMACO): The ACO managing the product's TC. The CMACO also manages the continued airworthiness for all products it approves for as long as the products are in service. Since this is the ACO managing a product's TC and the continued airworthiness, the project ACO must coordinate the issue paper with the CMACO.

6. Chief Scientific and Technical Advisors (CSTA): Technical consultants in specific, specialized topics, use their technical expertise to help AIR apply regulatory policies and practices to certify state-of-the-art technology, influence the research agendas of U.S. and foreign aviation industries, military, academia, and other research institutions, and interact with and assist other U.S. Government agencies and foreign CAAs in technology-related issues. The program/project manager must include the appropriate CSTAs in the issue paper coordination process when significant technical issues arise involving practices to certify state-of-the-art technology.

7. Manufacturing Inspection Office (MIO): Oversees manufacturing inspection district offices (MIDO) and manufacturing inspection satellite offices (MISO) in its geographic area and provides organizational leadership and technical guidance to these offices. The MIO manages all geographically located production facilities and designees. They administer the airworthiness certification policies, office staffing, and internal budget allocation.

8. MIDO: A subordinate office to the MIO in its geographical area. This office oversees production certification, airworthiness certification, approval holders (manufacturing facilities), and designees, in its geographical area. MIDOs support ACOs during type certification programs; they investigate and submit enforcement reports on noncompliance with 14 CFR parts. MIDOs investigate and ensure corrective measures for service difficulties, are implemented as identified in the quality system. When a significant issue pertains to manufacturing processes, production certification, or airworthiness certification, the program/project manager must include the MIDO in the issue paper coordination.

9. Program/Project Manager (Originator). The program/project manager makes the decision to generate an issue paper for significant technical, regulatory, or administrative issues. The program/project manager:

- Obtains concurrence from the ACO;
- Transmits issue paper to the accountable directorate through the project officer;
- Coordinates with the applicant and obtains applicant position (when necessary, discusses and clarifies the FAA position with the applicant);
- Obtains concurrence from AEG, MIDO, AIR-100, and CSTA's as needed;
- Obtains accountable directorate concurrence and approval of the issue paper;
- Develops conclusion and transmits it to the applicant; and
- Places results in official project file.

10. Project ACO (PACO): The ACO working a certification project. The PACO may need to coordinate with the CMACO, if the project is a follow-up certification activity, such as an STC or PMA.

11. Project Team: The project team normally for an aircraft certification project normally consists of the following:

- A program/project manager,
- Engineers or technical specialists,
- Flight test pilots and flight test engineers,
- Manufacturing inspectors,
- AEG operations and airworthiness inspectors, and directorate, and
- A project officer and other persons at the discretion of the accountable directorate.

Note 1: The certification project team is comprised of the individuals needed to conduct a certification project. A TCB is an FAA management team (see Appendix C).

Note 2: For engine or propeller certification projects, the project team composition could be slightly different.

12. Project Officer. The project officer provides regulatory/policy input to the project team or TCB through the program manager and routes the issue paper through the accountable directorate's specialists and manager in order to keep them apprised of the issue and to obtain their concurrence.

13. Technical Specialist. For type certification projects, new issue papers can be proposed to the TCB by technical specialists for technical issues in their areas, through the program/project manager at any time during the process before final type certification.

14. Type Certification Board or Project Team. The TCB is the FAA management team responsible for acquainting the applicant with the certification process, resolving significant problems, processing and coordinating issue papers, and establishing a schedule for the overall accomplishment of the type certification project. A TCB is established only for projects of a certain magnitude. When a TCB is not necessary, the certification team manages the project and performs any functions of the TCB to the degree necessary.

Appendix C. Terms and Definitions

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| 1. Amended TC | An approval for a change to a TC, made by the TC holder. Only the holder of the TC may apply for an amended TC. |
| 2. Certifying Authority (CA) | The aviation authority responsible for the original type certificate or supplemental type certificate. Certifying authority means the FAA for applicants/certificate holders located in the United States, and EASA for applicants/certificate holders located in the European Community and with Joint Aviation Authorities (JAA) member states, for products under JAA procedures. The certifying authority may also be referred to as the exporting Civil Aviation Authority (CAA). |
| 3. Certification Plan | The applicant's intended means for showing that a product complies with the applicable regulations. |
| 4. Methods of Compliance (MoC) | Analyses, tests, or inspections used by the applicant to demonstrate compliance with the certification and validation airworthiness standards. MoC include descriptions of methodologies employed, assumptions used in applying the methodologies, and discussions of the procedures used to verify the methodologies. |
| 5. Organization Designation Authorization (ODA) | An authorization by the FAA for an organization comprised of an ODA unit(s) using approved procedures, to make approvals on behalf of the FAA. |
| 6. Parts Manufacturer Approval (PMA) | An FAA design and production approval to manufacture replacement and modification parts that comply with the regulations. See Order 8110.42, <i>Parts Manufacturer Approval Procedures</i> . |
| 7. Product | For type certification, an aircraft, an aircraft engine, or a propeller. The word product has other meanings in different contexts, such as export airworthiness approvals (see 14 CFR § 21.1(b)). |

- 8. Significant Change** As defined in Order 8110.48, *How to Establish the Certification Basis for Changed Aeronautical Products*, a change to the TC is significant to the extent it changes one or more of the following: general configuration, principles of construction, or the assumptions used for certification. The change is not extensive enough to be considered a substantial change. See FAA Order 8110.48 for more information.
- 9. Supplemental Type Certificate (STC)** A TC that the FAA issues to an applicant who alters a product by introducing a major change in type design (as defined by 14 CFR § 21.93(a)). The STC process is essentially the same as the TC with a few differences.
- 10. Technical Specialist** For this document, “technical specialist” means any specialist involved in certification activities. The term is not restricted to an engineer with that job title.
- 11. Type Certificate (TC)** A design approval issued by the FAA when the applicant demonstrates that a product complies with the applicable regulations. As defined by 14 CFR § 21.41, the TC includes the type design, the operating limitations, the type design data sheet (TCDS), the applicable regulations, and other conditions or limitations prescribed by the Administrator. The TC is the foundation for other FAA approvals, including production and airworthiness approvals.
- 12. Type Certification Board (TCB)** An FAA management team responsible for acquainting the applicant with the certification process, resolving significant problems, and establishing a schedule for the overall accomplishment of the type certification project. A TCB is established only for projects of a certain magnitude. When a TCB is not necessary, the project team manages the project and performs any functions of the TCB to the degree necessary. The members of a TCB include:
- a. The ACO manager (or representative),
 - b. Accountable directorate project officer (for significant projects),
 - c. Program/project manager, and
 - d. Other members including the managers, supervisors, or senior personnel from the appropriate engineering disciplines; and flight test, manufacturing inspection, and assigned AEG

personnel.

Additional TCB Participants. The TCB may request other participants, such as those listed below, to join the certification team or participate on an advisory basis in the TCB meetings.

- a. ACO engineers, flight test pilots, and manufacturing inspectors,
- b. Washington Headquarters specialists,
- c. CSTAs,
- d. Additional AEG and FSDO personnel(e)
- e. The project officer from the accountable directorate (if not serving as a board member),
- f. Representatives of the CMACO, other ACOs, and directorates, and
- g. The applicant and its representatives.

13. Type Certification Board Meeting (TCBM)

Any formal meeting between the TCB and the applicant to coordinate the move to the next project phase or resolve issues preventing progress to the next phase. Examples include preliminary, interim, pre-flight, and final TCBMs.

14. Type Design

The engineering definition of a particular product. The type design consists of the following (see 14 CFR § 21.31):

- a. Drawings and specifications,
- b. Dimensions, materials, and processes,
- c. Airworthiness limitations,
- d. (for primary category aircraft, if desired) A special inspection and preventive maintenance program designed to be accomplished by an appropriately rated and trained pilot- owner, and
- e. Any other data necessary to allow, by comparison, the determination of the airworthiness, noise characteristics, fuel venting, and exhaust emissions (where applicable), of later products of the same type.

- 15. Type Validation** Type certification of an imported product to the importing country's applicable requirements or airworthiness standards. Process leads to issuance of new and amended type certificates when FAA is the VA. When EASA is VA, type validation leads to issuance of an EASA type certificate valid in all EASA member states. When an NAA of a non-EU JAA member state is VA, type validation leads to a letter of recommendation for TC from the JAA to the NAAs. Term also describes the general principles adopted by FAA and EASA/JAA for determining appropriate VA involvement in validations, whether they are new or amended type certifications, or major level 1 design changes.
- 16. Validating Authority (VA)** The aviation authority responsible for validating the CA type certificate or STC. Validating authority means EASA for applicants/approval holders located in the United States and FAA for applicants/approval holders in the European Community and JAA member states. Validating authority may also be called the importing authority.
- 17. Validation Authority Certification Basis** Is comprised of the applicable airworthiness standards identified by the VA plus any exemptions, special conditions, and equivalent level of safety findings declared by VA to establish design acceptance of an imported product or to certify the design change.
- 18. Validation Item (VI)** The certification item or airworthiness standard of particular interest to the VA. Three types of VI are: a significant standards difference (SSD), a project validation item, and generic validation item.