ORDER 8100.5A

AIRCRAFT CERTIFICATION SERVICE
MISSION, RESPONSIBILITIES, RELATIONSHIPS, AND PROGRAMS

September 30, 2003

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Distribution: A-W(IR/FS/EE)-3; A-X(CD/FS)-3; AFS-600 (10 copies); A-FAC-0 (ALL); AEU-100; A-FFS-10 (ALL)

Initiated By: AIR-110

RECORD OF CHANGES					DIRECTIVE NO.	8100.5A			
CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL	CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL

FOREWORD

This order describes the Aircraft Certification Service's (AIR) mission and responsibilities consistent with the policy and delegations of authority in Order 1100.2, Organization – FAA Headquarters. This order explains how AIR carries out its mission and the working relationships within and among directorates, and between directorates and headquarters. We wrote it for all aircraft certification personnel, including designees and industry personnel delegated by the Administrator.

John J. Hickey
Director, Aircraft Certification Service, AIR-1

TABLE OF CONTENTS

CHAPTER 1. GENERAL

Paragraph *Page*
1-1. Purpose....1
1-2. Distribution....1
1-3. Cancellation....1
1-4. Changes to this Order....1
1-5. Records Management....1
1-6. First Major Revision....1
1-7. Procedures from Order 8100.5 Reissued in Other Orders....1
1-8. Definitions....2
1-9. Website....3
1-10. AIR's Strategic Plan....3

CHAPTER 2. AIR'S MISSION AND RESPONSIBILITIES

2-1. AIR's Mission....5
2-2. Office of the Director (AIR-1)....5
Figure 2-1. Aircraft Certification Service Organization....6
2-3. The International Airworthiness Programs Staff (AIR-40)....6
2-4. The Aircraft Engineering Division (AIR-100)....7
2-5. The Production and Airworthiness Division (AIR-200)....8
2-6. The Chief Scientific and Technical Advisor (CSTA) Program....9
2-7. The Planning and Program Management Division (AIR-500)....10
2-8. The Brussels Aircraft Certification Staff (AEU-100)....11
2-9. The Aircraft Certification Directorate System....12
Figure 2-2. Aircraft Certification Service Geographical Directorates....13
2-10. Small Airplane Directorate (ACE-100)....16
2-11. Transport Airplane Directorate (ANM-100)....17
2-12. Rotorcraft Directorate (ASW-100)....18
2-13. Engine and Propeller Directorate (ANE-100)....18
2-14. Management Teams....19
2-15. Technical and Administrative Support....20

CHAPTER 3. DIRECTORATE RELATIONSHIPS

3-1. How Directorates Work with Each Other....21
3-2. How Directorate Elements Work Together....21
3-3. Directorate Coordination....22
3-4. ACOs Working Together....22
3-5. The Directorates' Relationship with Headquarters (AIR)....22
3-6. How the Directorates and Headquarters Work With the FAA Academy, Aircraft Certification Branch....23
3-7. How Accountable Directorates Work With Flight Standards....23
3-8. How CSTAs Help Directorates and ACOs....25
3-9. How Directorates and Headquarters Relate to Industry and the Public....25
3-10. How Research and Development Interacts with Directorates and Headquarters....26
3-11. Directorates and Other CAAs....26

CHAPTER 4. REGULATIONS AND GUIDANCE

4-1. Aviation Regulations....27
4-2. Directives....27
4-3. Advisory Circulars (AC)....27
4-4. Policy and Guidance....27

CHAPTER 5. CONTINUED AIRWORTHINESS

5-1. Airworthiness Directives (AD)....29
5-2. Aircraft Certification Systems Evaluation Program (ACSEP)....29
5-3. Suspected Unapproved Parts (SUP) Program....29
5-4. Certificate Management....29
5-5. Failure, Malfunction, and Defect Reports....29
5-6. Service Difficulty Reports (SDR)....30
5-7. Mandatory Continued Airworthiness Information (MCAI)....30
5-8. NTSB Recommendations....30
5-9. FAA Safety Recommendations....31

CHAPTER 6. CERTIFICATION AND APPROVAL PROGRAMS

6-1. Design Approval....33
6-2. Field Approvals....34
6-3. Production Approvals....34
6-4. Airworthiness Approvals....34
6-5. Foreign Validations....35

CHAPTER 7. DESIGNEE AND DELEGATION PROGRAM

7-1. Overseeing a Designee or Delegation....37
7-2. Designated Engineering Representatives (DER)....37
7-3. Designated Airworthiness Representatives (DAR)....37
7-4. Organizational Designated Airworthiness Representatives (ODAR)....37
7-5. Designated Manufacturing Inspection Representatives (DMIR)....37
7-6. Designated Alteration Stations (DAS)....38
7-7. Special Federal Aviation Regulation 36 (SFAR 36)....38
7-8. Delegation Option Authorization (DOA)....38

CHAPTER 8. RESEARCH AND DEVELOPMENT REQUIREMENTS PROGRAM

8-1. Office of Aviation Research (AAR)....39
8-2. FAA Safety Research Centers....39
8-3. The Office of Primary Interest (OPI)....39
8-4. Technical Community Representative Groups (TCRG)....39
8-5. The Special Assistant to the AIR Director (AIR-3)....39

CHAPTER 9. PROGRAM MANAGEMENT TOOLS

9-1. Engineering and Product Summary (EPS)....41
9-2. Manufacturing Inspection Management Information System (MIMIS)....41
9-3. Designee Information Network (DIN)....41

9-4. FAA Rulemaking Manual 41
9-5. AIR's Rulemaking Procedures Guide 41
9-6. Aviation Rulemaking Advisory Committee (ARAC) 41
9-7. Certification Process Improvement (CPI) 42
9-8. Labor Distribution Reporting (LDR) 42
9-9. Standard Operating Procedures (SOP) for AIR International Activities 42
9-10. Dashboard 43

APPENDIX 1. ACRONYMS (3 pages)

CHAPTER 1. GENERAL

1-1. PURPOSE. This revision changes Order 8100.5, Aircraft Certification Directorate Procedures, from a procedures document to a Service-wide overview document. The order now describes Aircraft Certification Service's (AIR) mission, responsibilities, relationships, and programs. In it, we also explain the working relationships among directorates and headquarters.

1-2. DISTRIBUTION. Distribute this order to the Washington headquarters branch level of Aircraft Certification Service, the Flight Standards Service, and Office of Environment and Energy; to the branch level of the regional aircraft certification directorates and regional flight standards divisions; to all aircraft certification field offices; the Aircraft Certification Branch at the FAA Academy; to the Brussels Aircraft Certification Staff; and to all Aircraft Evaluation Groups.

1-3. CANCELLATION. Order 8100.5, Aircraft Certification Directorate Procedures, dated October 1, 1982, is canceled.

1-4. CHANGES TO THIS ORDER.

a. Changes to this order are issued by the AIR Director. Changes may be made after coordinating with the aircraft certification directorates and affected offices. Changes cannot alter delegations of authority, relationships, or responsibilities set by Order 1100.2, Organization – FAA Headquarters.

b. Send suggested improvements to this order to the Aircraft Certification Service, Planning and Financial Resources Management Branch, AIR-530, Attention: Directives Management Officer. Federal Aviation Administration (FAA) Form 1320-19, Directive Feedback Information, is on the last page of this order. If you urgently need an interpretation, contact the Aircraft Engineering Division, Policy and Procedures Branch, AIR-110.

1-5. RECORDS MANAGEMENT. Refer to Orders 0000.1, FAA Standard Subject Classification System; 1350.14, Records Management; and 1350.15, Records Organization, Transfer, and Destruction Standards; or your office Records Management Officer (RMO)/Directives Management Officer (DMO) for guidance regarding retention or disposition of records.

1-6. FIRST MAJOR REVISION. We have not revised the Aircraft Certification Directorate Procedures Order since its release in 1982, when the directorate system was established. This revision documents today's Aircraft Certification Service.

1-7. PROCEDURES FROM ORDER 8100.5 REISSUED IN OTHER ORDERS.

- Type Certification Procedures – Domestic Programs. Covered in Order 8110.4, Type Certification.

- Type Certification Procedures – Import Products. Covered by Federal Aviation Administration and Joint Aviation Authorities Type Validation Principles.

• Production and Airworthiness Certification Procedures. Covered in Orders 8110.4 and 8120.2, Production Approval and Certificate Management Procedures.

• Designees and Delegations. See Orders 8100.8, Designee Management Handbook; 8130.2, Airworthiness Certification of Aircraft and Related Products; and 8100.9, DAS, DOA, and SFAR 36 Authorization Procedures.

• Issue Papers. Will be covered in the next revision to Order 8110.4.

NOTE: Regulatory actions are in the FAA Rulemaking Manual.

1-8. DEFINITIONS.

a. Accountable Directorate: An 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).

b. Geographic Directorate: An aircraft certification directorate responsible for compliance findings and executing all certification, and continued operational safety activities in its assigned geographic area.

c. 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. It offers certification expertise on investigating and reporting aircraft accidents, incidents, and service difficulties. The term "ACO" refers to the Engine Certification Office (ECO), the Rotorcraft Certification Office (RCO), the Special Certification Office (SCO), the Air*plane* Certification Office (ACO), and all other ACOs.

d. Manufacturing Inspection Office (MIO): The 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 Certificate Management Office (CMO) – Boeing is an additional office under the MIO and is unique to the Transport Airplane Directorate.) The MIO manages all geographically located production facilities and designees. They administer the airworthiness certification policies, office staffing, and internal budget allocation.

e. MIDO: This is 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.

f. MISO: This subordinate, geographically remote, office reports to a MIDO and is responsible for the same activities as the MIDO.

g. CMO: This subordinate office to the MIO has responsibilities similar to those of a MIDO. The only CMO is in the Transport Airplane Directorate and focuses on Boeing, our largest production certificate (PC) holder. The CMO also supports the Seattle and Los Angeles ACOs during type certification programs.

h. Aircraft Evaluation Group (AEG): A flight standards field element that helps support the certification and operational suitability determinations of new and modified type-certificated products. AEGs are the primary flight standard Service (AFS) liaison between flight standards elements and the accountable directorate and/or the manufacturers. AEGs may be co-located with an accountable directorate or one of its elements.

1-9. WEBSITE. AIR's website is available for the aviation community. The Internet address is http://www.faa.gov/certification/aircraft. This site offers information about AIR products and services.

1-10. AIR'S STRATEGIC PLAN. The vision, values, and goals of AIR include:

a. The vision. A world-class organization advancing aircraft safety throughout the global aviation system.

b. Our values. We value the well-being of fellow employees and are fully committed to creating a positive work environment and cultivating a responsible, competent, empowered, and diverse workforce. We are also committed to the success (for safety) of AIR customers through constructive collaboration, enabling safety compliance, stakeholder respect, and delivering quality products on time.

c. Our strategic goals.

(1) Safety Management – Enhance aviation safety by applying structured risk management and oversight methodologies throughout the product life cycle.

(2) Organizational Effectiveness and Efficiency – Strengthen our aviation safety service function to employ best business practices and build and sustain a supportive infrastructure to reflect the commitment to the AIR value statement.

(3) Innovation and Technology – Enable early engagement and maximize innovation in response to new aviation concepts and technology.

(4) Globalization – In a leadership role, enhance aircraft safety and security globally by working in partnership with the international community.

CHAPTER 2. AIR'S MISSION AND RESPONSIBILITIES

2-1. AIR'S MISSION is to promote aviation safety. To do this, we:

a. Work with aviation authorities, manufacturers, and other stakeholders to help them successfully improve the safety of the international air transportation system.

b. Provide a safety performance management system to ensure continued operational safety of aircraft.

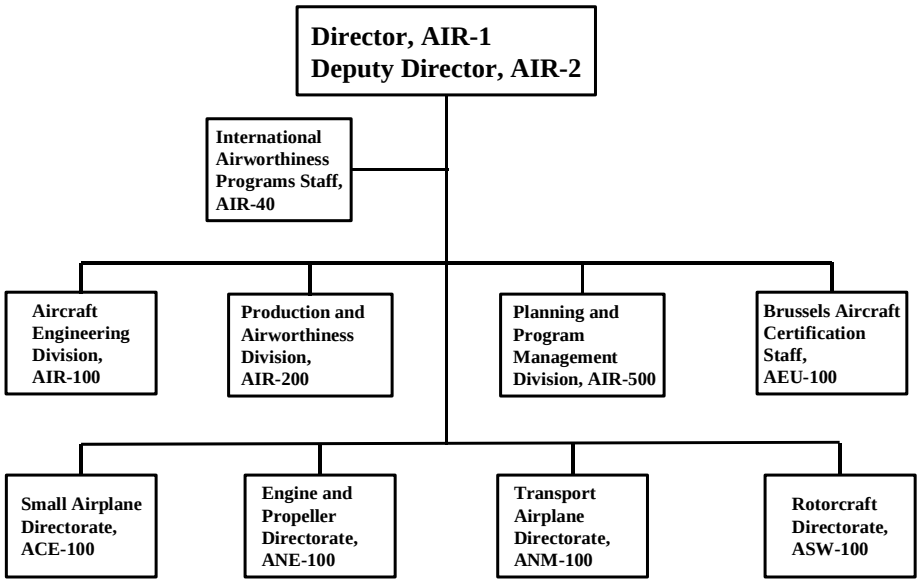
c. Administer safety standards governing the design, production, and airworthiness of civil aeronautical products.

d. Oversee design, production, and airworthiness certification programs to ensure compliance with prescribed safety standards.

2-2. OFFICE OF THE DIRECTOR (AIR-1) manages the Aircraft Certification Service. AIR-1 and the directorates share responsibility for the design and production approval, airworthiness certification, and continued airworthiness programs of all U.S. civil aviation products. Figure 2-1 shows the organizational structure of AIR. Under AIR-1, the Aircraft Certification Service carries out its mission through the following offices:

- **International Airworthiness Programs Staff** (AIR-40), Washington, DC
- **Aircraft Engineering Division** (AIR-100), Washington, DC
- **Production and Airworthiness Division** (AIR-200), Washington, DC
- **Planning and Program Management Division** (AIR-500), Washington, DC
- **Brussels Aircraft Certification Staff** (AEU-100), Brussels, Belgium
- **Small Airplane Directorate** (ACE-100), Kansas City, MO
- **Engine and Propeller Directorate** (ANE-100), Burlington, MA
- **Transport Airplane Directorate** (ANM-100), Seattle, WA
- **Rotorcraft Directorate** (ASW-100), Fort Worth, TX

Figure 2-1. Aircraft Certification Service Organization



2-3. THE INTERNATIONAL AIRWORTHINESS PROGRAMS STAFF (AIR-40) is the focal point for AIR international activities. AIR-40 provides liaison support to other FAA organizations, international agencies of the U.S. government, the International Civil Aviation Organization (ICAO), and foreign civil aviation authorities (CAA).

a. This office is the Service's center for coordination under the Interagency Group on International Aviation. The AIR-40 staff is made up of headquarters specialists and one aviation safety inspector (ASI) in Singapore (APC-100).

b. AIR-40's responsibilities are to:

(1) Develop policy and guidance for Bilateral Airworthiness Agreements (BAA), Bilateral Aviation Safety Agreements (BASA) Implementation Procedures for Airworthiness (IPA); and for other international issues, programs, and procedures.

(2) Lead technical assessment teams to develop new, or amend existing, bilateral agreements;

(3) Support directorate staffs, ACOs, and MIOs with international product and bilateral relationship maintenance work;

(4) Plan and coordinate annual joint international meetings. These include meetings with Transport Canada Civil Aviation and the European Aviation Safety Agency (EASA).

(5) Coordinate communications with ICAO and represent AIR at international meetings.

2-4. THE AIRCRAFT ENGINEERING DIVISION (AIR-100) promotes aviation safety. They develop and standardize 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. The following branches carry out AIR-100 responsibilities:

a. Certification Procedures Branch (AIR-110):

(1) Develop regulations and standardize national regulatory policy and guidance for 14 CFR part 21, subparts A (except as indicated in AIR-140 responsibilities), B, C, D, E, and K, as they relate to design certification.

(2) Develop and coordinate national directives, including standards, policy, and procedures for type certification and design approvals.

(3) Evaluate and respond to petitions for exemption and rulemaking.

(4) Coordinate directorate actions on national type certification issues.

(5) Coordinate AIR's regulatory program.

(6) Reviews certification procedures of other countries to support the Service's BASA activities.

(7) Lead and work with international authorities to promote aviation safety and improve air commerce.

b. Technical Programs Branch (AIR-120):

(1) Develop regulations and standardize national policy and guidance on airworthiness technology, operational equipment, and the technical standard order (TSO) process for 14 CFR part 21, subpart O.

(2) Develop and revise TSOs (other than electronic and system technologies), and harmonize these standards with other CAAs.

(3) Evaluate and respond to petitions for exemption and rulemaking.

(4) Coordinate directorate action on national technical standards.

(5) Coordinate applied research and development, technical analyses, and regulatory feasibility for developing aviation products throughout government and industry.

(6) Coordinate with other CAAs and the international aviation community on TSO regulations, policy, process, and product standard specifics.

(7) Serve as the Service process and quality focal point for responses to both National Transportation Safety Board (NTSB) and FAA safety recommendations.

c. Avionics Systems Branch (AIR-130):

(1) Develop regulations and standardize national regulatory policy on approval of airborne communications, navigation, and surveillance equipment and their integration into the National Airspace System (NAS).

(2) Work with other aviation authorities harmonizing aircraft certification standards and practices for avionics.

(3) Help CAAs and directorates comply with avionics regulations.

(4) Coordinate applied research and development, technical analyses, and regulatory feasibility assessments of developing avionics throughout government and industry.

(5) Stipulate and assess safety standards for design and airworthiness of avionics installations and equipment.

(6) Identify and support new and emerging avionics technologies.

(7) Develop TSOs, orders, and advisory circulars (AC) for electronic and system technologies.

(8) Evaluate and respond to petitions for exemption and rulemaking.

d. Delegation and Airworthiness Programs Branch (AIR-140):

(1) Develop regulations, policy, and standardize national guidance on continued airworthiness and continued operational safety for 14 CFR part 39 and 14 CFR §§ 21.3, 21.50, 21.99, and 183.29, as they relate to engineering.

(2) Develop, coordinate, and recommend national standards, policy, and procedures for delegation and continued airworthiness for 14 CFR part 21, subparts J, M, and Special Federal Aviation Regulation (SFAR) 36.

(3) Coordinate directorate actions in engineering delegation and continued airworthiness issues.

(4) Maintain and update the Regulatory and Guidance Library (RGL), a set of searchable electronic databases containing regulatory, guidance, and aviation product information.

(5) Distribute airworthiness directives (AD) and special airworthiness information bulletins (SAIB) to owners, operators, and foreign authorities.

(6) Maintain databases and distribute lists of supplemental type certificates (STC), parts manufacturer approvals (PMA), and TSO authorizations.

2-5. THE PRODUCTION AND AIRWORTHINESS DIVISION (AIR-200) promotes aviation safety by developing and standardizing regulations, national directives, policy, and

procedures. AIR-200 does this for continued operational safety, production certification and approvals, surveillance, and airworthiness approval. This division also identifies and registers the marking of civil aeronautical products for designee and delegation programs. Three branches carry out AIR-200 responsibilities:

a. Production Certification Branch (AIR-210):

(1) Develops regulations and standardizes national regulatory policy and guidance for 14 CFR part 21, subparts F, G, K, J, M, and O, and part 45, subpart B, as they relate to production certification.

(2) Responds to inquiries from FAA, the public, industry, and congressional and other U.S. governmental agencies about current regulations, exemptions to regulations, policy, and guidance on these subparts.

b. Airworthiness Certification Branch (AIR-220):

(1) Develops regulations and standardizes national regulatory policy and guidance for 14 CFR part 21 subparts H and L, part 45 subpart C, and part 183 subparts A, B, and C, as they relate to airworthiness certification.

(2) Responds to inquiries from the FAA, public, industry, and congressional and other U.S. government agencies about current regulations, exemptions to regulations, policy, and guidance on these subparts.

c. Evaluation and International Programs Branch (AIR-230): Responds to internal inquiries and from the public, industry, congressional, other U.S. governmental agencies, and CAAs of other countries on:

(1) Aircraft Certification Systems Evaluation Program (ACSEP).

(2) International manufacturing programs, international civil aircraft production and airworthiness assessment programs, BAAs, and BASAs.

(3) Standards and organizations. Examples are: The Fastener Quality Act (FQA), American Society for Quality (ASQ), International Organization for Standardization (ISO) 9000, and SAE International's Aerospace Standard (AS) 9100.

(4) Undue burden decision papers.

2-6. THE CHIEF SCIENTIFIC AND TECHNICAL ADVISOR (CSTA) PROGRAM is dedicated to safety and maintains a staff of highly specialized technical leaders. They lead the aviation industry in the design and development of aircraft. CSTAs also use their technical expertise to help the Service apply regulatory policies and practices to certify state-of-the-art technology.

a. CSTAs are active members of technical societies, write technical papers, and lecture at universities, and speak at industry and government forums. They influence the research agendas

of U.S. and other aviation industries, military, academia, and other research institutions. Lastly, they help other U.S. government agencies and foreign CAAs with technology-related issues.

b. The CSTA program consists of 18 technical disciplines:

Flight Deck Human Factors	Fuel System Design
Flight Loads/Aeroelasticity	Advanced Composite Materials
Nondestructive Evaluation	Crash Dynamics
Aircraft Computer Software	Fracture Mechanics
Flight Environmental Icing	Advanced Avionics/Electrical
Metallurgy	Electromagnetic Interference
Advanced Control Systems	Aeronautical Communications
Propulsion Control Systems	Engine System Dynamics/Safety
Flight Management	Aircraft Safety Analysis

c. CSTA responsibilities and functions include a wide range of services to the directorates, AIR-100, AIR-200, other FAA offices, and the aviation industry. At national and international professional meetings, they represent the Department of Transportation (DOT) and us as the U.S. government-recognized expert in their discipline. A CSTA can identify an appropriate policy for certification, and influence policy development. The accountable directorates and divisions, however, generate and issue the policy.

d. We encourage consultations with CSTAs by telephone or in person. Remember that the CSTA is a technical advisor only: Send compliance questions to the accountable directorate.

Reference: Order 8000.80, Regulation and Certification (AVR) Chief Scientific and Technical Advisor and Senior Technical Specialist Programs
Responsible Office: AVR-10

2-7. THE PLANNING AND PROGRAM MANAGEMENT DIVISION (AIR-500) manages a full range of national program and administrative activities in: training, staffing, program planning and evaluation, information technology, finance, and human resources. AIR-500 also distributes national policy and guidance on those subjects. Two branches carry out these responsibilities:

a. Human Resources and Training Development Branch (AIR-510):

(1) Directs and oversees the Service's fiscal and human resources.

(2) Designs and develops technical training. Ensures appropriate delivery methods for the technical workforce.

(3) Manages the Management and General Training and Technical Training Programs.

(4) Manages the implementation and maintenance of human resource policies, procedures, and initiatives.

(5) Manages special organizational development projects as assigned by the Director.

(6) Supports general administrative and organizational activities (office space management and office acquisitions).

(7) Manages national labor management relations.

b. Planning and Financial Resources Management Branch (AIR-530):

(1) Develops, executes, and monitors the AIR business plan.

(2) Manages the strategic and tactical planning process.

(3) Formulates and executes the AIR budget.

(4) Manages the budget appropriation process.

(5) Forms and leads information system-user groups to identify requirements for new automation programs.

(6) Coordinates AIR requirements for automation programs and resources with other Office of Regulation and Certification (AVR) offices.

(7) Acts as Service liaison for Office of Inspector General, General Accounting Office, and Office of Management and Budget audits.

(8) Assesses and evaluates AIR business and operational programs, and monitors corrective actions to improve program operations.

2-8. THE BRUSSELS AIRCRAFT CERTIFICATION STAFF (AEU-100) maintains working relationships with counterpart officials of foreign CAAs in Europe, the Middle East, and Africa. The AEU-100 staff also supports activities in the United States with representatives from AIR-100, each of the four directorates, and Flight Standards. The responsibilities of this office are to:

a. Help the directorates in routine certification matters in Europe, Middle East, and Africa, and respond to short-notice issues.

b. Provide foreign CAA perspectives to AIR and communicate to the CAAs any new FAA policy and procedures.

c. Support AIR-40 and the directorates in BASA IPA assessments and bilateral maintenance.

d. Improve bilateral working relationships.

e. Represent AIR-100 and the directorates at Joint Aviation Authorities (JAA), EASA, and foreign industry meetings.

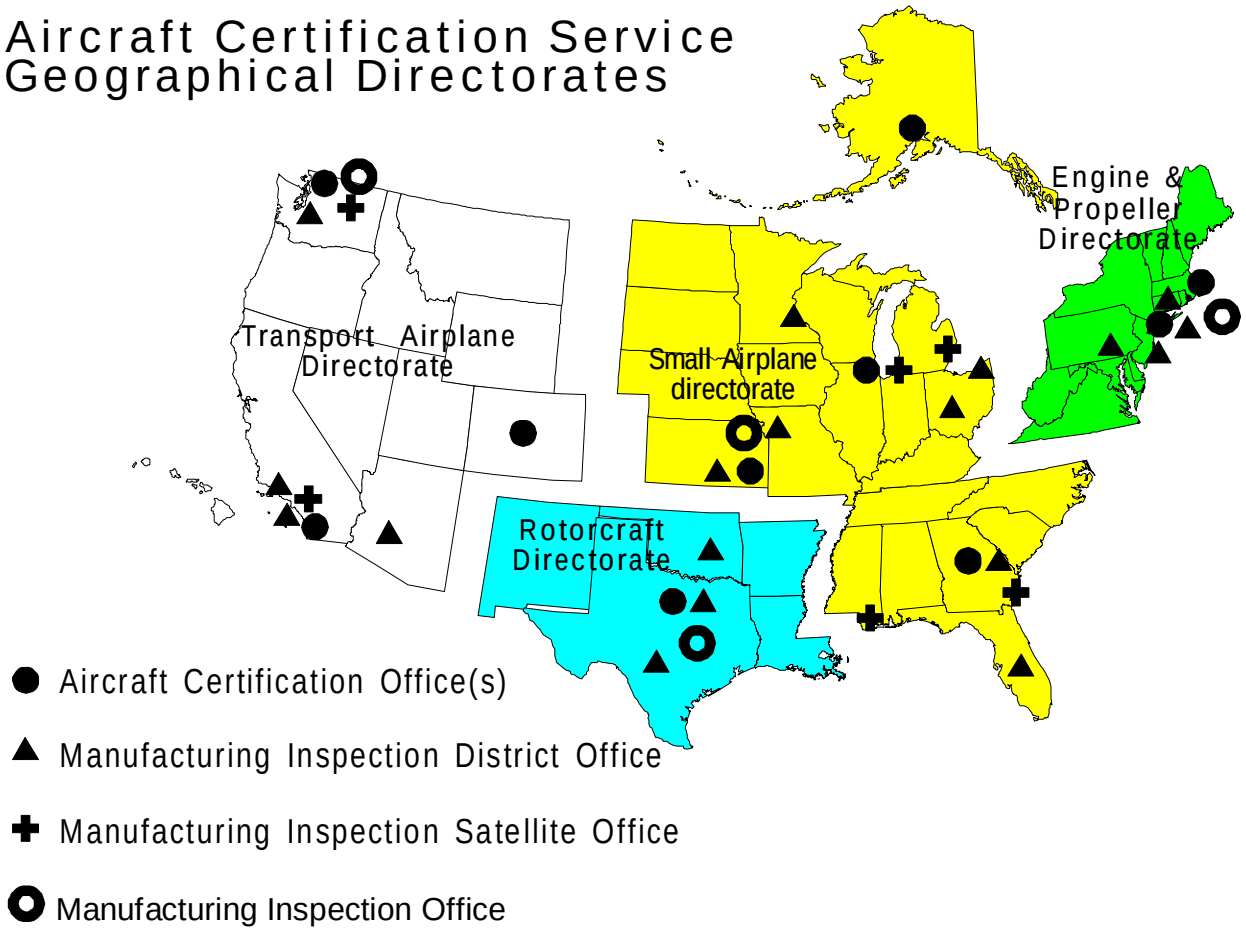
f. Issue TSO letters of design approval to TSO applicants in bilateral partner countries in Europe, the Middle East, and Africa.

2-9. THE AIRCRAFT CERTIFICATION DIRECTORATE SYSTEM promotes aviation safety by developing and implementing regulatory requirements, policy and procedures for type, production, airworthiness certification, and continued operational safety for each directorate's designated products. The aircraft certification directorate system includes:

- 4 directorates
- 13 ACOs, including the Airplane Certification Office, RCO, SCO, and ECO
- 4 MIOs
- 18 MIDOs
- 6 MISOs
- CMO – Boeing

a. The directorates develop regulations, policies, and procedures for their assigned products. They support certification activities in their geographic area by following technical policy guidance from the accountable directorate, AIR-100, and AIR-200. Directorates have final authority for their assigned products and are accountable to the Director, AIR-1, for type and production certification. The field offices work directly with applicants and do the actual certification of products in their respective geographic areas. Figure 2-2 depicts the directorate structure and reporting field offices.

Figure 2-2



NOTE: The following special offices are not depicted in Figure 2-2: The Fort Worth RCO and SCO, the Boston ECO, and the CMO – Boeing because they're co-located with an ACO.

b. Each directorate operates as both an accountable and a geographic directorate.

Accountable Functions	Geographic Functions
• Responsible for regulations and policy for a particular product and aeronautical parts	• Responsible for field office operations, certification programs, and projects within assigned area
• Gives technical policy assistance to geographic directorate	• Provides resources, implements policy, and ensures project completion

c. For example, if a Massachusetts applicant wants to type certify a transport category airplane, the *accountable* directorate is the Transport Airplane Directorate in Seattle, WA. This accountable directorate makes all transport aircraft certification policy. The *geographic* directorate is the Engine and Propeller Directorate in Burlington, MA. If that same Massachusetts applicant wanted an aircraft engine certified, the Engine and Propeller Directorate is *both* the accountable and geographic directorate.

d. Directorate responsibilities also include:

(1) Managing resources and providing administrative support to the directorate and field offices (ACOs, MIDOs, and so on).

(2) Developing and standardizing application of technical policies and regulations for assigned 14 CFR parts.

(3) Providing technical guidance to all accountable aircraft type certification programs.

(4) Monitoring all in-progress non-accountable product type certification programs in its geographic area and coordinating with the appropriate accountable directorate.

(5) Administering production and airworthiness certification programs in its geographic area.

(6) Monitoring and analyzing service difficulty issues.

(7) Issuing ADs as the accountable directorate for a product, or recommending ADs to an accountable directorate.

(8) Helping to develop SAIBs or airworthiness alerts to notify aircraft owners and operators of significant service problems.

(9) Validating design approval projects submitted to us from bilateral countries, and supporting the export of U.S. products.

(10) Addressing and sustaining bilateral relationships with assigned countries through working relationships, ad hoc meetings, and project work.

(11) Harmonizing regulations and policies with foreign CAAs.

(12) Develop and manage COS programs for the specific 14 CFR part.

NOTE: Geographical directorates issue ADs for PMAs and TSO authorizations in their geographical area of responsibility.

Reference: Order 1100.5, FAA Organization – Field

e. ACOs do the Service's engineering certification work by:

(1) Approving the design certification of aircraft, aircraft engines, propellers, and replacement parts for those products. This includes managing type certification, supplemental type certification, parts manufacturer approval, and TSO design approval programs.

(2) Supporting field approvals (FAA Form 337).

(3) Managing the FAA delegation program through the appointment of designees, approval of delegations, and oversight of these designees or delegations.

(4) Validating designs and issuing approvals for import products (type certificate (TC), STC, TSO).

(5) Supporting other CAAs; helping the directorate maintain bilateral agreements. Also, ACOs complete projects involving import/export and continued airworthiness of products manufactured in the directorate's geographic area.

(6) Monitoring continued operational safety.

f. ACO certification or design approval programs include all categories of products manufactured in the ACO geographic area of responsibility. On design approval projects, the ACO coordinates with the accountable directorate. For example, a Texas applicant's request for type certification of a part 23 airplane is managed by the Fort Worth ACO under policy guidance from the accountable Small Airplane Directorate standards staff headquartered in Kansas City, MO.

g. MIOs are the directorate operational arms that administer the production and airworthiness safety management programs. MIOs secure compliance with agency regulations, standards, and procedures governing the production of aircraft, aircraft engines, aircraft propellers, and parts. They provide expertise in aircraft accident investigations, incidents, and service difficulties. Internationally, MIOs help directorates maintain and monitor bilateral agreements. MIOs support bilateral provisions by overseeing production and determining airworthiness for importing/exporting products, parts, components, and appliances.

h. MIDOs are responsible for original aircraft airworthiness certification. They are also responsible for certification and certificate management of manufacturing facilities (and their designees) that produce aircraft, aircraft engines, propellers, and parts. MIDOs support ACOs during design approvals.

i. MISOs are the operational sub-element of an assigned MIDO. Duties are the same as the MIDO in their assigned geographical area. A MISO may be co-located with a large manufacturing facility.

j. The CMO is a subordinate office of the MIO. Its responsibilities are the same as a MIDO, but it focuses on a single large PC holder. CMOs support ACOs during design approvals.

k. AEG consists of operations, maintenance, and avionics inspectors who provide technical services to the directorates and ACOs as follows:

(1) Manage Flight Operations Evaluation Boards (FOEB),

(2) Manage Maintenance Review Boards (MRB),

(3) Manage Flight Standardization Boards (FSB),

(4) Participate on Type Certification Boards (TCB),

(5) Participate on Flight Manual Review Boards (FMRB),

(6) Develop and update Service Difficulty Reports (SDR) relating to operation and maintenance of assigned aircraft,

(7) Assist ACOs in development of compliance requirements for ADs,

(8) Review and accept Instructions for Continued Airworthiness submitted by type certification and supplemental type certification applicants, and

(9) Provide other operational and maintenance technical services as needed.

Reference: Order 8430.21, Flight Standards Division, Aircraft Certification Division, and Aircraft Evaluation Group Responsibilities

2-10. SMALL AIRPLANE DIRECTORATE (ACE-100). This directorate is responsible for:

a. Title 14 CFR part 23, the airworthiness standards for normal, utility, acrobatic, and commuter category airplanes.

b. Title 14 CFR part 31, the airworthiness standards for manned free balloons.

c. Airworthiness standards for gliders and airships.

d. Policy and guidance for the above aircraft, aircraft type certificated in the Restricted Category and surplus military aircraft, for which 14 CFR parts 23 or 31 apply.

e. Policy and guidance for Primary Category airplanes and airplanes certified using the Joint Aviation Requirements for Very Light Aircraft (JAR-VLA).

f. Management of the Light Sport Aircraft Program.

g. Management of the following field offices:

ACO	***Associated MIDOs and MISOs***
Anchorage ACO	Wichita MIDO
Wichita ACO	Wichita MIDO Kansas City MIDO
Atlanta ACO	Atlanta MIDO Savannah MISO (extension of the Atlanta MIDO) Mobile MISO (extension of the Atlanta MIDO) Orlando MIDO
Chicago ACO	Minneapolis MIDO Cleveland MIDO Detroit MISO (extension of the Cleveland MIDO) Vandalia MIDO Chicago MISO (extension of the Vandalia MIDO)

h. Certification and continued operational safety of imported small airplanes.

i. Monitoring bilateral relationships with Argentina, Australia, Austria, Czech Republic, Germany, Malaysia, New Zealand, Poland, Romania, Russia, and Switzerland.

2-11. TRANSPORT AIRPLANE DIRECTORATE (ANM-100). This directorate is responsible for:

a. Title 14 CFR part 25, the airworthiness standards for Transport Category airplanes;

b. Policy and guidance for the above aircraft; for Restricted Category and surplus military aircraft certificated in the Restricted Category, for which 14 CFR part 25 applies.

c. Management of the following field offices:

ACO	***Associated MIDOs and CMO***
Seattle ACO	Seattle MIDO CMO – Boeing
Los Angeles ACO	Los Angeles MIDO Van Nuys MIDO Phoenix MIDO
Denver ACO	Seattle MIDO

d. Certification and continued operational safety of imported transport airplanes.

e. Monitoring bilateral relationships with Brazil, Peoples Republic of China, Denmark, Finland, France, Israel, Netherlands, Norway, Spain, and Sweden.

2-12. ROTORCRAFT DIRECTORATE (ASW-100). This directorate is responsible for:

a. Title 14 CFR part 27, the airworthiness standards for Normal Category rotorcraft.

b. Title 14 CFR part 29, the airworthiness standards for Transport Category rotorcraft.

c. Airworthiness standard for powered lift aircraft.

d. Policy and guidance for the above aircraft; for Restricted Category and surplus military aircraft certificated in the Restricted Category, for which 14 CFR parts 27 or 29 apply.

e. Policy and guidance for Primary Category rotorcraft.

f. Management of the following field offices:

ACOs	***Associated MIDOs***
Fort Worth ACO (Airplane)	Forth Worth MIDO Oklahoma City MIDO San Antonio MIDO
Fort Worth RCO (Rotorcraft)	Fort Worth MIDO Oklahoma City MIDO San Antonio MIDO
Fort Worth SCO (Special Cert.)	Fort Worth MIDO Oklahoma City MIDO San Antonio MIDO

g. Certification and continued operational safety of imported rotorcraft.

h. Monitoring bilateral relationships with Indonesia, Italy, and South Africa.

2-13. ENGINE AND PROPELLER DIRECTORATE (ANE-100). This directorate is responsible for:

a. Title 14 CFR part 33, the airworthiness standards for aircraft engines.

b. Title 14 CFR part 35, the airworthiness standards for propellers.

c. Policy and guidance for engines, propellers, and auxiliary power units (APU).

d. Management of the following field offices:

ACOs	***Associated MIDOs and MISO***
Boston ACO	Boston MIDO
Boston ECO (Engine)	Windsor Locks MIDO
New York ACO	Farmingdale MIDO Saddle Brook MISO (extension of the Farmingdale MIDO) New Cumberland MIDO

e. Certification and continued operational safety of imported engines and propellers.

f. Monitoring bilateral relationships with Belgium, Canada, Japan, Singapore, and the United Kingdom.

2-14. MANAGEMENT TEAMS. AIR uses management teams to standardize the procedures and policies of the various FAA certification offices. The following table lists these teams, their mission, and composition.

Team	Mission	Composition
Aircraft Certification Management Team (ACMT)	• Leads and directs AIR • Shapes and supports FAA goals and objectives • Improves AIR products and services • Focuses on customer needs and strengthens customer relationships • Enhances work life by involving employees in decision-making	• Director, AIR-1 • Deputy Director, AIR-2 • Managers of AIR-100, AIR-200, AIR-500, and the 4 directorates
Aircraft Certification Office Management Team (ACOMT)	• Identifies, standardizes, and implements improved processes for the certification and continued airworthiness of aeronautical products • Fosters open communication • Standardizes national procedures • Provides a forum for innovation • Shares internal resources	• Manager, AIR-100 (ACMT link) • Managers of the 13 ACOs

Team	Mission	Composition
Administrative Support Team (AST)	• Supports individual ACMT members • Supports the Service divisions and directorates • Delivers improved products and services to all employees	• Manager, AIR-500 (ACMT link) • National representative, AIR-530 • Manager, AIR-510 • Technical and Administrative Support Staff focal point (AIR-200), and Technical and Administrative Support Managers (AIR-100 and the 4 directorates)
Manufacturing Inspection Management Team (MIMT)	Manages regulations and policies developed by AIR-200 for: • Certificate management • Airworthiness certification • Designee appointment/oversight	• Manager, AIR-200 (ACMT link) • AIR-200 representative • MIO managers of the 4 directorates
Standards Management Team (SMT)	Leads the Service corporate regulatory program involving: • Standardized regulations, policy, and applications • Continued operational safety • Research and development • International harmonization • Emerging technologies	• Manager, ASW-100 (ACMT link) • Managers of the 4 directorate standards offices and AIR-110, AIR-120, AIR-130, and AIR-140 • AIR-200 representative (MIMT link) • Manager, AEU-100

2-15. TECHNICAL AND ADMINISTRATIVE SUPPORT. This order does not address support branches, offices, or staffs, such as the Technical and Administrative Support branches (103s). These branches provide a standard function: to support a headquarter division or directorate. This order also does not address the functions that support directorate responsibilities, such as for airframe, systems and equipment, propulsion, flight test, and MIOs.

CHAPTER 3. DIRECTORATE RELATIONSHIPS

3-1. HOW DIRECTORATES WORK WITH EACH OTHER.

a. Each directorate is responsible, through its standards staff, for technical policy management in its assigned product area. Directorates assure that the certification basis is properly defined and the airworthiness rules and certification procedures are applied adequately and uniformly. They ensure that the operational considerations identified by the AEG are addressed in the certification process. Accountable directorates may also participate in compliance determinations.

b. Each directorate is also a geographical directorate that administers AIR's mission in its geographical area.

c. Each directorate, therefore, has dual responsibilities: to implement the guidance from other directorates, AIR-100, and AIR-200; and to educate other directorates about their own product-specific guidance. This must be done so that an ACO in one directorate will operate as an extension of the accountable directorate standards staff. It's the standard staff's responsibility to provide timely technical guidance and assistance. The geographic directorate ensures that the project is completed, implements technical policy, and provides resources.

d. The ACO determines and resolves technical issues. If an issue is outside the scope of existing policy and guidance, the ACO will send it to the accountable directorate's standards staff or headquarters division for final determination and resolution (most often done through the issue paper process).

3-2. HOW DIRECTORATE ELEMENTS WORK TOGETHER.

a. ACO, MIO, MIDO, MISO, and CMO are the elements the directorates use to carry out their geographic responsibilities. The ACO has all the necessary disciplines to administer all type certification and safety management and designee oversight activities, except the ones assigned to manufacturing inspection. The MIO, MIDO, MISO, and CMO manage the safety of assigned production facilities and approvals, designee oversight, type certification support, production approvals, and original airworthiness certification.

b. Each directorate manages its accountable and geographic AIR workload and executes overall resource management and control. The directorate manager is responsible – and accountable to the AIR Director – for type, production, and airworthiness certification, and continued airworthiness programs in the assigned geographical area. Managers are also responsible for the technical accuracy of the type certification programs of assigned product certification categories worldwide. That includes monitoring service difficulties and corrective action.

c. ACOs communicate with the MIDO, MISO, and CMO in the geographic area where the applicant for a TC is located. All requests for conformity or other support are sent to the MIO, MIDO, or MISO for that project. ASIs assigned to these offices also request support from

other geographic MIDOs. They send information copies of these requests to the responsible MIO.

3-3. DIRECTORATE COORDINATION.

a. Activities that support new or amended type or supplemental type certification, and many service difficulty projects, cross directorate boundaries. This creates a need for direct communication between the ACO project manager, or specialists, and the accountable directorate standards staff's project officer. The geographic directorate oversees and supports the project.

b. Proposed airworthiness rule changes, policy, and guidance developed by each directorate must be formally coordinated with the other directorates, AIR-100, AIR-200, and AFS-1 before they're issued. Special conditions, exemptions, and appeals require similar coordination unless there is no effect on other aircraft category airworthiness rules.

c. The Brussels Staff supports the directorates and type certification programs under negotiated BAAs and BASAs, according to 14 CFR § 21.29.

d. The accountable directorate defines its involvement in each project and advises the ACO as described in chapter 4 of this order.

3-4. ACOs WORKING TOGETHER. ACOs routinely get applications for follow-up certification, STCs, or PMAs. The certificate management ACO, where the product was originally certificated, knows the product best. Often the certificate management ACO is not the project ACO where the STC or PMA application is being made. The project ACO coordinates with the certificate management ACO, who then concurs on the requirements for compliance. The certificate management ACO helps the project ACO throughout the project. ACOs should rely on work completed by other ACOs without additional review.

3-5. THE DIRECTORATES' RELATIONSHIP WITH HEADQUARTERS (AIR).

a. Each directorate may individually represent the FAA in contacts with industry, government, and public representatives, appropriate to the national level. It is important that each directorate notify other directorates and headquarters of significant policy discussions that are in its area of responsibility. Directorates should independently resolve technical issues and procedures within their own expertise.

b. Except for parts of 14 CFR specifically assigned to the directorates, AIR-100 and AIR-200 are responsible for:

(1) Title 14 CFR parts 21, 39, 45, 183, and the SFARs;

(2) National and international type, production, and airworthiness certification policy and procedures common to directorates in national directives and advisory material; and

(3) Development and standardization of regulations and policies that span multiple 14 CFR parts (that is, parts 23, 25, 27, 29) in coordination with the affected directorates.

c. The Office of the Director (AIR) assures consistency among the directorates as they issue national technical policy guidance. The office also monitors directorate interaction with airworthiness authorities outside the U.S. This happens in areas that go beyond their assigned technical responsibilities. It is important that directorates operate solely within the framework and intent of this order, and that they notify the Office of the Director of precedent-setting discussions and agreements.

d. AIR-40 helps directorate offices develop, implement, and interpret bilateral agreements. As the service focal point for relationships with CAAs, AIR-40 supports directorates by performing two international functions: product work (validation and design approval projects with bilateral partners) and maintaining bilateral relationships. Directorate offices and AIR-40 work together to:

(1) Review proposed working arrangements with CAAs, and perform technical assessments for new and amended bilateral agreements.

(2) Support and maintain BASAs.

(3) Identify and resolve problems with bilaterals.

(4) Report on international activities.

(5) Work according to guidance material and agreements, such as IPAs.

3-6. HOW THE DIRECTORATES AND HEADQUARTERS WORK WITH THE FAA ACADEMY, AIRCRAFT CERTIFICATION BRANCH.

a. The Aircraft Certification Branch of the FAA Academy (AMA-220) provides technical training to the AIR workforce, students from other FAA organizations, other Federal agencies, state and local governments, international students, FAA designees, and the aviation industry. It gives technical advice and assistance on managing and programming agency training.

b. The AMA-220 staff actively participates with AIR to develop courseware and the underlying policy.

c. AMA-220's principle interface with AIR is through the Human Resources and Training Development Branch (AIR-510).

d. Directorates and headquarters regularly work with AMA-220 to assist in developing and revising technical training courses, and instructing various classes through the Associate Instructor program.

3-7. HOW ACCOUNTABLE DIRECTORATES WORK WITH FLIGHT STANDARDS.

a. The accountable directorates and their elements advise, guide, and assist all flight standards field, regional, and headquarters elements on the following:

(1) The type-certification process as well as the certification basis of individual type-certificated products;

(2) ADs issued against type-certificated products;

(3) SFAR 36 authorizations;

(4) The process of approving technical data for major repairs or major alterations, for example, field approvals;

(5) Original or recurrent standard airworthiness certification of type-certificated products or parts, and;

(6) Special airworthiness certification of type-certificated products or parts, as well as non-type-certificated products and parts.

b. The accountable directorates and their elements use the expertise of the various flight standards AEGs to help determine maintenance and operational suitability for type-certificated products and parts. For each type-certificated product, the AEGs produce a Flight Standardization Board report, a master minimum equipment list, and a Maintenance Review Board report.

Reference: Order 8430.21, Flight Standards Division, Aircraft Certification Division, and Aircraft Evaluation Group Responsibilities
Order 8000.42, Authorization to Develop and Use Major Repair Data Not Specifically Approved by the Administrator

c. Accident and incident notifications. A flight standards district office (FSDO), accountable directorate standards staff, or the Office of Accident Investigation (AAI) sends accident/incident notifications to the ACO responsible for a product's certificate management. This ACO tracks all available information and keep the accountable directorate informed. The accountable directorate may be included in teleconferences or briefings conducted by accident investigators.

Reference: *Order 8020.11, Aircraft Accidents and Incidents – Notification, Investigation, and Reporting*

d. MIDOs and FSDOs work together to conduct original or recurrent airworthiness certification. The MIDO manager decides who is responsible for original airworthiness certification. The FSDO manager decides who is responsible for recurrent airworthiness certification, based on geographic proximity and cost efficiency.

Reference: Order 8130.2, Airworthiness Certification of Aircraft and Related Products

e. SFAR 36 authorizations cover the development of major repair data. Aircraft certification and flight standards personnel issue these authorizations to holders of air carrier, commercial operator, or repair station certificates, after they concur on them. The applicant applies first to the FSDO with certificate responsibility. The ACO in the FSDO's geographic

directorate evaluates the qualifications, ability, and authority of the applicant's engineering staff. The FSDO is responsible for coordinating with the applicant and initiating the letter of authorization. After review and concurrence, the ACO and the FSDO jointly sign the applicant's procedure manual and letter of authorization.

Reference: Order 8000.42, Authorization to Develop and Use Major Repair Data Not Specifically Approved by the Administrator

f. The ACOs help the FSDOs in issuing field approvals of technical data by jointly determining whether the field approval could be completed with ACO engineering support as a coordinated field approval. When the FSDO determines the major alteration or repair is more complex than a minor design change or exceeds the knowledge of the inspector, the project is referred to the ACO for approval under the STC system.

Reference: Order 8300.10, Airworthiness Inspector's Handbook
Responsible Office: AFS-300

3-8. HOW CSTAs HELP DIRECTORATES AND ACOs. The AIR specialist should consult with CSTAs, who are recognized experts in their fields on technical issues. CSTAs do not directly develop new policy or methods of compliance. Rather, they work with the directorate standards staff and ACO who develop and implement new policy.

3-9. HOW DIRECTORATES AND HEADQUARTERS RELATE TO INDUSTRY AND THE PUBLIC.

a. Directorates and headquarters regularly work with trade associations, public interest groups, state and local government representatives, other federal government agencies, military specialists, and the news media to exchange information on Service programs and projects.

b. Any industry or public request for agency records must be in writing and submitted under the provisions of the Freedom of Information Act (FOIA) to the National FOIA Staff (Assistant Administrator for Region and Center Operations, ARC-40), or to the FOIA Coordinator designated for each region and center. Requests for information from the public and the news media are managed according to FAA directives. Aircraft certification directorate managers may supplement these procedures, if appropriate.

References: Order 1200-23, Public Availability of Information
Order 1270.1, Freedom of Information Act Program
Responsible Office: ARC-40 and AAI-200

3-10. HOW RESEARCH AND DEVELOPMENT INTERACTS WITH DIRECTORATES AND HEADQUARTERS. The Office of Aviation Research (AAR) oversees research and development for our lines of business. Because AAR holds this responsibility, it ultimately defines the method by which a research requirement is met. The directorates and headquarters work with AAR to define research requirements that support the development of aviation safety regulations.

Reference: The AVR R&D Requirements Process
Responsible Office: The ACMT delegates R&D management responsibility to the SMT

3-11. DIRECTORATES AND OTHER CAAs maintain a relationship to ensure continued operational safety of the international fleet. In coordination with AIR-40 and as negotiated in the BASAs and BAAs, directorates and divisions:

a. Help CAAs validate and accept products;

b. Understand how other authorities work through project interaction;

c. Inform CAAs of new AIR policies and organizational updates;

d. Collaborate with AIR-40 to:

(1) Address controversial certification issues, resolve systemic concerns with a bilateral partner, or both.

(2) Share information on authority changes and updates that affect bilateral agreements.

CHAPTER 4. REGULATIONS AND GUIDANCE

4-1. AVIATION REGULATIONS are in 14 CFR. These regulations set the minimum requirements for certification and alteration of civil aviation products and other appliances, and for the approval of FAA designees.

Reference: RGL
Responsible Office: Office of Rulemaking (ARM)

4-2. DIRECTIVES are comprised of FAA orders and notices. The FAA staff develops directives for FAA personnel, designees, and delegated organizations. Directives transmit information, guidance, policy, instructions, and mandatory procedures for AIR to carry out its mission. Directives are internal, intended for FAA employees. Notices transmit similar information as directives and are for internal FAA use. Unlike orders, which remain in force until canceled, notices expire one year after we issue them.

Reference: Order 1320.1, Directives
Responsible Office: APF-100 (Office of Cost and Performance Management, Standards and Information Division)

4-3. ADVISORY CIRCULARS (AC) are written for the aviation industry (such as manufacturers, designers, and installers), FAA customers, and the public. ACs show an acceptable way, ***but not the only way***, for the reader to comply with a certification requirement or set of certification requirements. ACs may also show how to comply with a regulation, or how to harmonize implementation for the international aviation community. ACs do not have the force of regulations.

Reference: Order 1320.46, Advisory Circular System
Responsible Office: APF-100

4-4. POLICY AND GUIDANCE are issued by the accountable directorate or headquarters divisions when needed for specific certification or program issues. They may have a limited impact on the aviation community and even be specific to a single project. If an FAA office drafts policy and then determines that it will affect a wider audience, the office will incorporate the content into a directive or AC. Policy and guidance do not have the force of regulations.

Responsible Office: Division or Directorate Manager

CHAPTER 5. CONTINUED AIRWORTHINESS

5-1. AIRWORTHINESS DIRECTIVES (AD) are substantive regulations we issue under 14 CFR part 39.

a. We issue ADs when an unsafe condition is found in a particular aircraft, engine, propeller, or appliance and when the unsafe condition is likely to exist or develop in products of the same type design. ADs prescribe corrective actions, or the conditions and limits under which the products may continue to be operated. Once an AD is issued on a product, the product must be operated consistent with the AD.

b. ADs are key elements of the FAA's safety rulemaking responsibilities. Hazards to safe flight can be prevented by the prompt dissemination of accurate ADs. With the safety standards imposed by the type certification and airworthiness certification requirements, ADs provide an additional critical regulatory tool.

References: FAA Airworthiness Directives Manual (FAA-AIR-M-8040.1)
Order 8040.1, Airworthiness Directives
Responsible Office: AIR-140

5-2. AIRCRAFT CERTIFICATION SYSTEMS EVALUATION PROGRAM (ACSEP) determines if FAA production approval holders (PAH) and delegated facilities are complying with applicable regulations and the procedures established to meet these regulations. The program surveys standard industry practices, to identify national trends that may require new or revised regulations, policy, or guidance.

Reference: Order 8100.7, Aircraft Certification System Evaluation Program
Responsible Office: AIR-200

5-3. SUSPECTED UNAPPROVED PARTS (SUP) PROGRAM receives, tracks, and investigates reports of suspected unapproved parts. SUP reports come from the public, industry, FAA safety inspectors, other government agencies, and foreign CAAs. The SUP staff alerts the aviation industry using Unapproved Parts Notifications. The SUP program works closely with law enforcement agencies to pursue fraudulent or counterfeit parts.

References: Order 8120.10, Suspected Unapproved Parts Program
AC 21-29B, Detecting and Reporting Suspected Unapproved Parts
Responsible Office: AVR-20

5-4. CERTIFICATE MANAGEMENT is the method we use to ensure that a design and/or PAH continually complies with regulations pertinent to its products or parts.

Reference: 14 CFR part 21, Certification Procedures for Products and Parts
Responsible Office: AIR-200

5-5. FAILURE, MALFUNCTION, AND DEFECT REPORTS are documents generated by the design approval holder as required by 14 CFR § 21.3. These reports assure continued

operational safety of aeronautical products by monitoring and providing feedback between industry and the FAA. The design approval holder must report any of the 13 occurrences listed in the regulation. The assigned ACO engineer and/or MIDO-assigned principal inspector must act on these manufacturer reports, and require corrective action, if appropriate. Reporting observed deviations and problems, and applying the lessons learned from their resolutions, are keys in preventing unsafe conditions from recurring.

5-6. SERVICE DIFFICULTY REPORTS (SDR) are generated by operators and used to alert us of occurrences and conditions that adversely affect the safe operation of an aeronautical product. These reports identify a specific failure, malfunction, or defect of any product, part, process, or article that could cause an unsafe condition. SDRs provide input into statistical analysis and risk management processes so that we can improve the continued operational safety of the civil aviation fleet. SDRs help us monitor and evaluate the frequency of certain failures, malfunctions, or defects so that we, with manufacturers and operators, can take remedial action.

Reference: Order 8010.2, Flight Standards Service Difficulty Program
Responsible Office: AFS-620 Not available on any FAA website

5-7. MANDATORY CONTINUED AIRWORTHINESS INFORMATION (MCAI) is issued by aviation authorities from the State of Design, when information must be provided to maintain the safe operation and continued airworthiness of an aircraft, engine, or propeller. As soon as the State of Registry receives an MCAI, it adopts the instruction or assesses the information and takes appropriate action. As a member of ICAO, the FAA:

a. Uses the AD system to notify all ICAO member States of Registry that an unsafe condition has been found on a U.S. State of Design product.

b. Evaluates the MCAI of non-U.S. State of Design products to determine whether an AD is appropriate.

Reference: Annex 8 to the Convention on International Civil Aviation Organization, "Airworthiness of Aircraft"
Responsible Office: AIR-40

5-8. NTSB RECOMMENDATIONS typically respond to accidents or incidents. The Board follows a set process to determine causes of accidents and incidents and to recommend how to avoid them in the future. This process consists of review and research, test and analyses, and public hearings.

a. The FAA Administrator responds to NTSB recommendations. Senior FAA officials personally ensure timely evaluation and, when appropriate, implementation of the Board's recommendations. AAI has program management responsibility. To simplify implementing recommendations, AIR implements recommendations on aeronautical product design and manufacturing. AIR has developed the following procedures:

(1) AIR-100 serves as a focal point for AIR. The division receives all recommendations and assigns them to the appropriate AIR office for action. The action offices are AIR-100, AIR-200, and the directorates.

(2) Each directorate has an NTSB Safety Recommendations Coordinator to review and assign the recommendations to the appropriate office for action.

(3) The action office (AIR-100, AIR-200, or a directorate) drafts a response. The action office should also develop and maintain an NTSB safety recommendation tracking system to follow the progress of actions taken. The action office then returns the proposed responses, and action plans with milestones, to the directorate's NTSB Coordinator.

(4) The directorate NTSB Coordinator:

(a) Reviews input from the action office to ensure that the course of action completely addresses the recommendation;

(b) Checks that an action plan supports the proposed response; and

(c) Uses a tracking system to ensure that the status of each NTSB recommendation is readily available;

> **NOTE:** The directorate reviews responses and then forwards them to AIR-120, AIR-1, and AIR-2 for review. AAI-210 does the final review, processing, and coordination.

Reference: AIR Procedures for Processing NTSB Recommendations, FAA-AIR-97-03
Responsible Office: AAI-210, AIR-100

5-9. FAA SAFETY RECOMMENDATIONS are responses to aircraft incidents or issues recognized by FAA personnel. They follow the same FAA administrative process as for NTSB recommendations, except:

a. All actions and communications are internal.

b. AIR-100, AIR-200, and the directorates manage the process.

Reference: N/A
Responsible Office: AAI-210, AIR-100/200

CHAPTER 6. CERTIFICATION AND APPROVAL PROGRAMS

6-1. DESIGN APPROVALS either approve or allow alteration of a type-certificated aircraft, aircraft engine, aircraft propeller, and FAA-approved appliances, parts, or processes. The following FAA approvals are examples of design approvals:

a. TCs certify that an applicant's design (type design) meets the minimum FAA requirements. A TC is issued for an aircraft, aircraft engine, or propeller. The following information is reflected on the product's TC data sheet (TCDS):

- Information about the design,
- Operating limitations,
- The applicable regulations, and
- Any conditions or limitations for the product.

Reference: Order 8110.4, Type Certification
Responsible Office: AIR-110

b. AMENDED TCs are issued only to the TC holder. The amended TC certifies that the holder's major design change meets the minimum FAA requirements. Amended TCs are issued to accommodate design changes that are not extensive enough to require a new TC. One example is the introduction of a derivative model.

Reference: Order 8110.4, Type Certification
Responsible Office: AIR-110

c. STCs AND AMENDED STCs certify that an applicant's major changes to type design meet the minimum FAA requirements. These certificates can be issued to any party who complies with the applicable type certification requirements.

References: Order 8110.4, Type Certification
AC 21-40, Application Guide for Obtaining a Supplemental Type Certificate
Responsible Office: AIR-110

d. PMAs are used to approve the design and manufacture of modification and replacement parts. A PMA issued with a modification includes an installation eligibility for a specific product or a series of products. An authorization to produce parts under a PMA is not transferable and is effective until surrendered, withdrawn, or otherwise terminated by the Administrator.

Reference: Order 8110.42, Parts Manufacturer Approval Procedures
Responsible Office: AIR-110

e. TSO AUTHORIZATIONS are design and manufacturing approvals of a specific article. They do not, however, include installation approval on an aircraft. A TSO authorization

is issued when an applicant shows that an FAA design and minimum performance standard is met, and duplicate articles can be produced. Installation approval is normally obtained through an STC, field approval, or a logbook entry. TSO authorizations are not transferable, except as outlined in FAA Order 8150.1.

Reference: Order 8150.1, Technical Standard Order Program
Responsible Office: AIR-120

6-2. FIELD APPROVALS are one means the FAA uses to approve technical data needed for a major repair or a major alteration. The Administrator approves technical data, through an authorized Flight Standards ASI (airworthiness). The "field approval" of technical data is documented in Block 3 of FAA Form 337, Major Repair and Alteration. Block 8 provides a record of the data that support the repair or alteration. The ASIs issue field approvals within their technical knowledge and purview. The ASI may not make determinations or judgments about alterations or repairs that are beyond the scope of a field approval, for example, a major design change.

Reference: Order 8300.10, Airworthiness Inspectors Handbook
Responsible Office: AFS-300

6-3. PRODUCTION APPROVALS are PCs, approved production inspection systems (APIS), TSO authorizations, and PMAs issued by us. They allow a manufacturer to produce products or parts with an FAA-approved design, FAA-approved quality control system, or – in the case of a PMA – an acceptable inspection system. Production approvals are issued per 14 CFR part 21 requirements for design, quality control, and quality fabrication inspection systems.

Reference: Order 8120.2, Production Approval and Surveillance Procedures
Responsible Office: AIR-200

6-4. AIRWORTHINESS APPROVALS are approvals of individual aircraft issued in the form of Airworthiness Certificates. They are also issued as Authorized Release Certificates for aircraft engines, propellers, TSO articles, and approved parts. Airworthiness Certificates for aircraft are issued in one of two classifications:

- A standard certificate, for aircraft in condition for safe operation and that conform to an FAA-approved type design.

- A special certificate, for aircraft that do not meet the requirements for a standard airworthiness certificate, but are in condition for safe operation. These airworthiness approvals and certifications are for both new (original certification) and used (recurrent certification) aircraft.

a. Export airworthiness approvals are issued in the form of Export Certificates of Airworthiness for aircraft, aircraft engines, and propellers. Authorized Release Certificates are issued to allow export of TSO articles and modification and replacement parts.

b. Airworthiness certifications and approvals are issued by FAA ASIs or FAA-appointed designees.

References: Order 8120.2, Production Approval and Surveillance Procedures
Order 8130.21C, Procedures for Completion and Use of Authorized Release Certificates
FAA Form 8130-3, Authorized Release Certificate, Airworthiness Approval Tag
FAA Form 8130.2, Airworthiness Certification of Aircraft and Related Products
Responsible Office: AIR-200

6-5. FOREIGN VALIDATIONS.

a. There are aircraft, engines, propellers, and appliances designed and produced in one country and then exported to another. The FAA requires that an imported product meet the U.S. design and performance standards before it is permitted to operate. Other ICAO member states may have their own design and performance standards or they may rely on the design and performance standards of another member state. The type validation process establishes an imported product's compliance with the importing country's design and performance requirements.

b. In addition to TCs, design changes via STC are also subject to validations.

c. Validations require close communication and cooperation between the exporting certificating authority (CA), importing validating authority (VA), and the applicant.

Reference: Federal Aviation Administration and Joint Aviation Authorities Type Validation Principles
Responsible Office: AIR-110

CHAPTER 7. DESIGNEE AND DELEGATION PROGRAM

7-1. OVERSEEING A DESIGNEE OR DELEGATION authorization ensures the integrity of our delegated operations. The designee program designates private persons to act as representatives of the Administrator in examining, inspecting, and testing persons and aircraft for purposes of issuing certificates. FAA managing offices (MIDOs and ACOs) appoint, supervise, monitor, and train designees. When necessary, they terminate a designee's appointment.

Reference: Order 8100.8, Designee Management Handbook
Responsible Office: AIR-140, AIR-220

7-2. DESIGNATED ENGINEERING REPRESENTATIVES (DER) are individuals appointed by us to approve, or recommend approval of, specific data verifying that a product complies with all pertinent regulations. ACOs select, appoint, train, and supervise DERs in their geographic areas of responsibility under 14 CFR part 183.

References: Order 8100.8, Designee Management Handbook
Order 8110.37, Designated Engineering Representative (DER) Guidance Handbook
Responsible Office: AIR-140

7-3. DESIGNATED AIRWORTHINESS REPRESENTATIVES (DAR) are individuals authorized by us to conduct conformity inspections and issue airworthiness approvals. MIDOs and MISOs select, appoint, train, and supervise DARs in their geographic areas of responsibility. The MIDOs and MISOs manage their DARs per 14 CFR part 183 and guidance issued by AIR-200.

Reference: Order 8100.8, Designee Management Handbook
Responsible Office: AIR-220

7-4. ORGANIZATIONAL DESIGNATED AIRWORTHINESS REPRESENTATIVES (ODAR) are persons employed by PAHs seeking an appointment to conduct conformity inspections and issue airworthiness approvals. MIDOs and MISOs select, appoint, train, and supervise ODARs in their respective geographic areas of responsibility. MIDO and MISOs act under 14 CFR part 183 and policy issued by AIR-200.

References: Order 8100.8, Designee Management Handbook
Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals
AC 183.33, Designated Airworthiness Representatives
Responsible Office: AIR-140, AIR-220

7-5. DESIGNATED MANUFACTURING INSPECTION REPRESENTATIVES (DMIR) are employed by PAHs or PAH-approved suppliers. A DMIR determines that submitted products and parts conform to the approved type design, and are in condition for safe operation. MIDOs and MISOs select, appoint, train, and supervise DMIRs in their respective geographic areas of responsibility.

References: 14 CFR part 183
Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals
AC 183.33, Designated Airworthiness Representatives
Order 8100.8, Designee Management Handbook
Responsible Office: AIR-220

7-6. DESIGNATED ALTERATION STATIONS (DAS) are FAA approval holders, delegated by us, to approve certain alterations that result in the issue of STCs. These kinds of alterations are specific, and defined in an agreement between the FAA and the DAS. The ACO appoints and monitors DASs. When authorized by the ACO, DASs can also issue airworthiness certificates.

References: 14 CFR part 21
Order 8100.9, DAS, DOA, and SFAR 36 Authorization Procedures
Responsible Office: AIR-140

7-7. SPECIAL FEDERAL AVIATION REGULATION 36 (SFAR 36) allows FAA certificate holders with FAA delegated authority to make major repairs on aircraft, engines, propellers, or appliances without FAA-approved data. FAA certificate holders do this by using technical data developed by the SFAR 36 staff. Certificate holders can approve a product or appliance for return to service without approved data. Authorizations under SFAR 36 are granted by the geographic ACO and FSDO with certificate responsibility for the applicant. The ACO oversees engineering aspects of the repair approvals, while the FSDO oversees repairs on the product or appliance.

Reference: Order 8100.9, DAS, DOA, and SFAR 36 Authorization Procedures
Responsible Office: AIR-140

7-8. DELEGATION OPTION AUTHORIZATION (DOA) is issued to a manufacturer holding a TC and PC. A DOA allows the manufacturer to amend the TC and produce the amended product for sale. If authorized, DOAs can also develop new products. The managing ACO selects and appoints DOAs. The ACO manages DOA certification projects and oversees the DOA holder.

References: 14 CFR part 21
Order 8100.9, DAS, DOA, and SFAR 36 Authorization Procedures
Responsible Office: AIR-140

CHAPTER 8. RESEARCH AND DEVELOPMENT REQUIREMENTS PROGRAM

8-1. OFFICE OF AVIATION RESEARCH (AAR) oversees research and development activities for FAA's lines of business. Because AAR holds this responsibility, this office ultimately defines how a research requirement is met. AVR, including AIR, works with AAR to define research requirements that support the development of aviation safety regulations and guidance.

8-2. FAA SAFETY RESEARCH CENTERS. The William J. Hughes Technical Center in Atlantic City, NJ, directs a major part of the agency's safety research. Research is also conducted at the Civil Aeromedical Institute (CAMI) at the FAA Aeronautical Center in Oklahoma City, OK.

8-3. THE OFFICE OF PRIMARY INTEREST (OPI) is the organization with the need for technical research. The OPI leads and manages Technical Community Representative Groups (TCRG). Each OPI designates a management representative, usually an R&D coordinator or program manager, from a directorate or division. These representatives ensure that:

a. All requirements meet the AVR research definition;

b. TCRG recommendations are consolidated with other TCRGs, and support the directorate or division regulatory program; and

c. Needed information from TCRGs is complete and timely.

8-4. TECHNICAL COMMUNITY REPRESENTATIVE GROUPS (TCRG) are FAA teams that represent various technical communities. They are the primary AVR source for research requirements. Each TCRG identifies the technical needs to support the delivery of AVR products within their specialty.

8-5. THE SPECIAL ASSISTANT TO THE AIR DIRECTOR FOR RESEARCH AND DEVELOPMENT provides Service-wide leadership to the Research and Development Program. As such, this person ensures that headquarters and directorates:

a. Identify new issues needing technical focus;

b. Identify existing areas that no longer need technical focus;

c. Work closely with the FAA Technical Center and CAMI to monitor ongoing research, and

d. Facilitate the integration of AVR-wide research and development.

Reference: The AVR R&D requirements Process
Responsible Office: The ACMT delegates R&D management responsibility to the SMT

CHAPTER 9. PROGRAM MANAGEMENT TOOLS

9-1. ENGINEERING AND PRODUCT SUMMARY (EPS) automatically tracks the work products completed by an ACO or the standards staff office and:

a. Records the hours spent on significant projects completed by an engineer.

b. Generates the Certification Program Notification (CPN) letter and standard letters sent to the applicant.

c. Generates an STC when a project is done.

d. Generates standard reports, such as the number of work products completed by an ACO or standards staff office.

Responsible Office: AVR-11

9-2. MANUFACTURING INSPECTION MANAGEMENT INFORMATION SYSTEM (MIMIS) is an automated data collection system used by ASIs to record and track daily work assignments. It also provides information on work measures and project activity reporting.

Reference: Order 1380.48, Manufacturing Inspection Management Information System
Responsible Office: AIR-200

9-3. DESIGNEE INFORMATION NETWORK (DIN) is an information database on each individual designee and organizational designation that we appointed. The DIN system tracks designee life cycle management, work activity, and training. DIN also allows the user to update designee data at a nationwide level. When users update designee information online, DIN ensures that designee data are accurate and current. This allows us to make decisions based on comprehensive and accurate designee information.

Responsible Office: AIR-140

9-4. FAA RULEMAKING MANUAL, called the Red Book, outlines the process for developing and issuing rulemaking documents. It also gives FAA personnel the tools necessary for starting rulemaking projects and drafting the appropriate documents. Those tools include document templates and other reference materials.

Responsible Office: ARM-20

9-5. AIR'S RULEMAKING PROCEDURES GUIDE is a job aid for developing and issuing rulemaking projects. The guide describes internal procedures AIR employees should follow to initiate and complete rulemaking projects. This guide supplements the Red Book.

Responsible Office: AIR-110

9-6. AVIATION RULEMAKING ADVISORY COMMITTEE (ARAC) is a formal advisory committee of representatives from the aviation community. It was established in 1991.

ARAC provides industry perspective, information, advice, and recommendations on FAA rulemaking activities. It gives us firsthand insight from parties most affected by existing and proposed regulations.

Reference: Operating Procedures for the Aviation Rulemaking Advisory Committee
Responsible Office: ARM-20

9-7. CERTIFICATION PROCESS IMPROVEMENT (CPI) describes how to plan, manage, and document an effective, efficient product certification process and working relationship between the FAA and an applicant. CPI should be used by the FAA and applicants for type certification, significant supplemental type certification, significant amendments to TCs and STCs, and production approval. It is the result of our commitment to improve process effectiveness and efficiency. CPI is based on early and frequent communication on developing a plan that the FAA and industry can follow. CPI's goal is to increase safety by creating a smoother, less erratic certification path.

Reference: The FAA and Industry Guide to Product Certification
Responsible Office: AIR-110

9-8. LABOR DISTRIBUTION REPORTING (LDR) tracks labor hours for projects and activities that are the basis for calculating labor costs. It helps AIR better understand labor costs for delivering FAA products and services.

Reference: Order 2700.37, Labor Distribution Reporting Policy
Responsible Office: AIR-500 (focal point)

9-9. STANDARD OPERATING PROCEDURES (SOP) FOR AIR INTERNATIONAL ACTIVITIES are consolidated information for AIR employees who implement and maintain bilateral agreements. The SOP offers policy guidance on international activities including:

- Guidance on bilateral agreements,
- AIR internal coordination,
- Manufacturing oversight,
- International certificate transfers,
- Undue burden decision papers,
- Bilateral relationship maintenance and continued airworthiness,
- International correspondence,
- International travel and standards of conduct procedures,
- ICAO, and

- Technical assistance to foreign CAAs.

Reference: Standard Operating Procedures for AIR International Activities
Responsible Office: AIR-40

9-10. DASHBOARD tracks and provides visibility of key projects and activities within the Regulation and Certification line-of-business and the Service. Bi-weekly review allows management the opportunity to intervene in a timely manner to allocate necessary resources and ensure projects are on track and aligned with upper-management directives.

Responsible Office: Division and Directorate Managers

APPENDIX 1. LIST OF ACRONYMS

14 CFR – Title 14 of the Code of Federal Regulations (formerly Federal Aviation Regulations)

AAI – Office of Accident Investigation

AAR – Office of Aviation Research

AC – Advisory Circular

ACMT – Aircraft Certification Management Team

ACO – Aircraft Certification Office

ACOMT – Aircraft Certification Office Management Team

ACSEP – Aircraft Certification Systems Evaluation Program

AD – Airworthiness Directive

AEG – Aircraft Evaluation Group

AFS – Flight Standards Service

AIR – Aircraft Certification Service

APF-100 – Standards and Information Division

ARC – Assistant Administrator for Region and Center Operations

ARM – Office of Rulemaking

ASI – Aviation Safety Inspector

AST – Administrative Support Team

AVR – The Office of Regulation and Certification

BAA – Bilateral Airworthiness Agreement

BASA – Bilateral Aviation Safety Agreement

CAA – Civil Aviation Authority

CAMI – Civil Aeromedical Institute

CMO – Certificate Management Office

CPI – Certification Process Improvement

APPENDIX 1. LIST OF ACRONYMS (Continued)

CSTA – Chief Scientific and Technical Advisor

DAR – Designated Airworthiness Representatives

DAS – Designated Alteration Stations

DER – Designated Engineering Representatives

DMIR – Designated Manufacturing Inspection Representatives

DOA – Delegation Option Authorization

EASA – European Aviation Safety Agency

ECO – Engine Certification Office

FAA – Federal Aviation Administration

FSDO – Flight Standards District Office

ICAO – International Civil Aviation Organization

IPA – Implementation Procedures for Airworthiness

MCAI – Mandatory Continued Airworthiness Instructions

MIDO – Manufacturing Inspection District Office

MIMT – Manufacturing Inspection Management Team

MIO – Manufacturing Inspection Office

MISO – Manufacturing Inspection Satellite Office

NTSB – National Transportation Safety Board

ODAR – Organizational Designated Airworthiness Representative

PAH – Production Approval Holder

PC – Production Certificate

PMA – Parts Manufacturer Approval

R&D – Research and Development

RCO – Rotorcraft Certification Office

APPENDIX 1. LIST OF ACRONYMS (Continued)

RGL – Regulatory and Guidance Library

SAIB – Special Airworthiness Information Bulletin

SCO – Special Certification Office

SDR – Service Difficulty Report

SFAR – Special Federal Aviation Regulation

SMT – Standards Management Team

SOP – Standard Operating Procedures

STC – Supplemental Type Certificate

SUP – Suspected Unapproved Parts

TC – Type Certificate

TCRG – Technical Community Representative Groups

TSO – Technical Standard Order

U.S. Department
of Transportation

**Federal Aviation
Administration**

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive. You may also Suggest new items or subjects that should be added. Please alert us if you find an error.

Subject: Order 8100.5A

To: Directive Management Officer, AIR-530

(*Please check all appropriate line items)*

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:
(Attach separate sheet if necessary)

☐ In a future change to this directive, please include coverage on the following subject
(Briefly describe what you want added):

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____

FAA Form 1320–19 (8-89)(Representation)