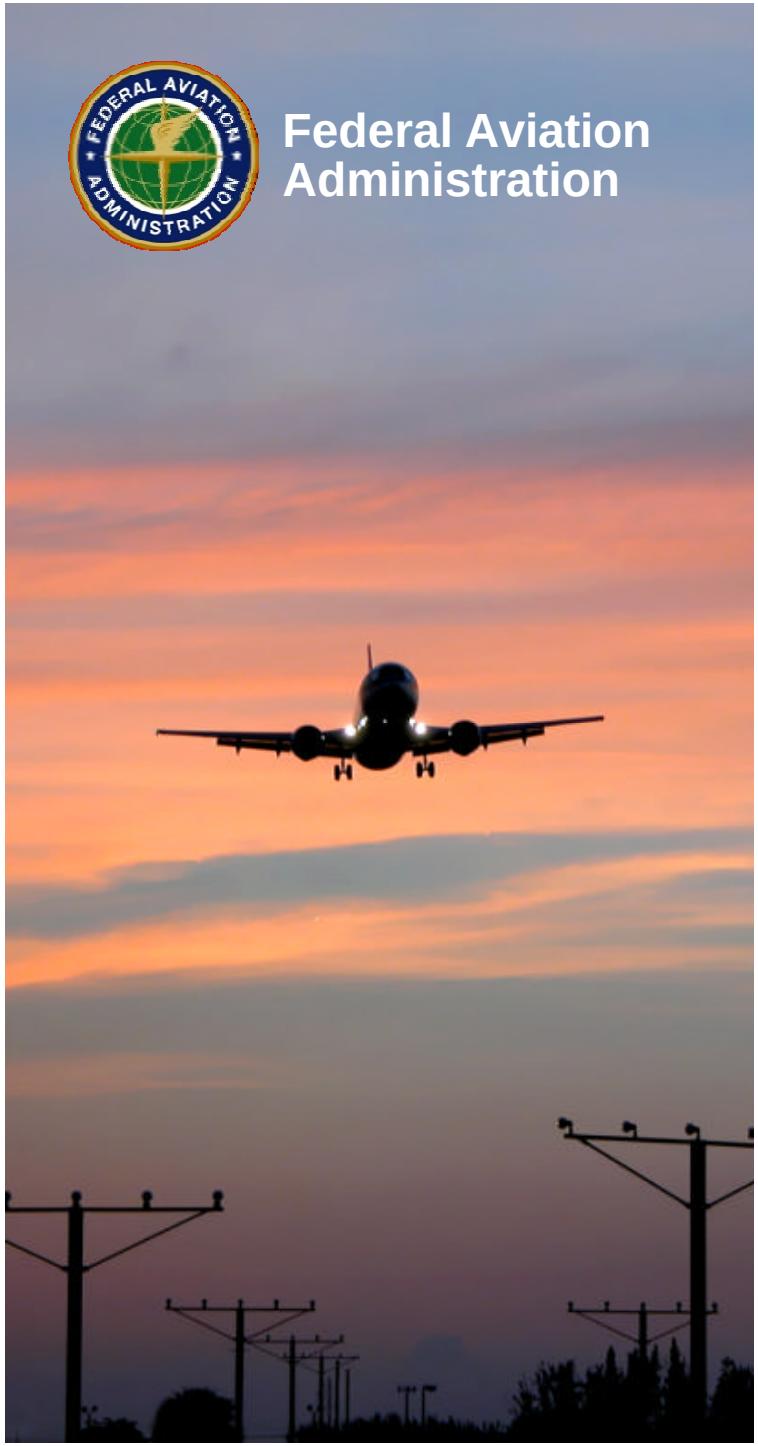
Gorham Technical Associates Conference 2014

FAA PMA Update



Presented to: Gorham Conference Attendees

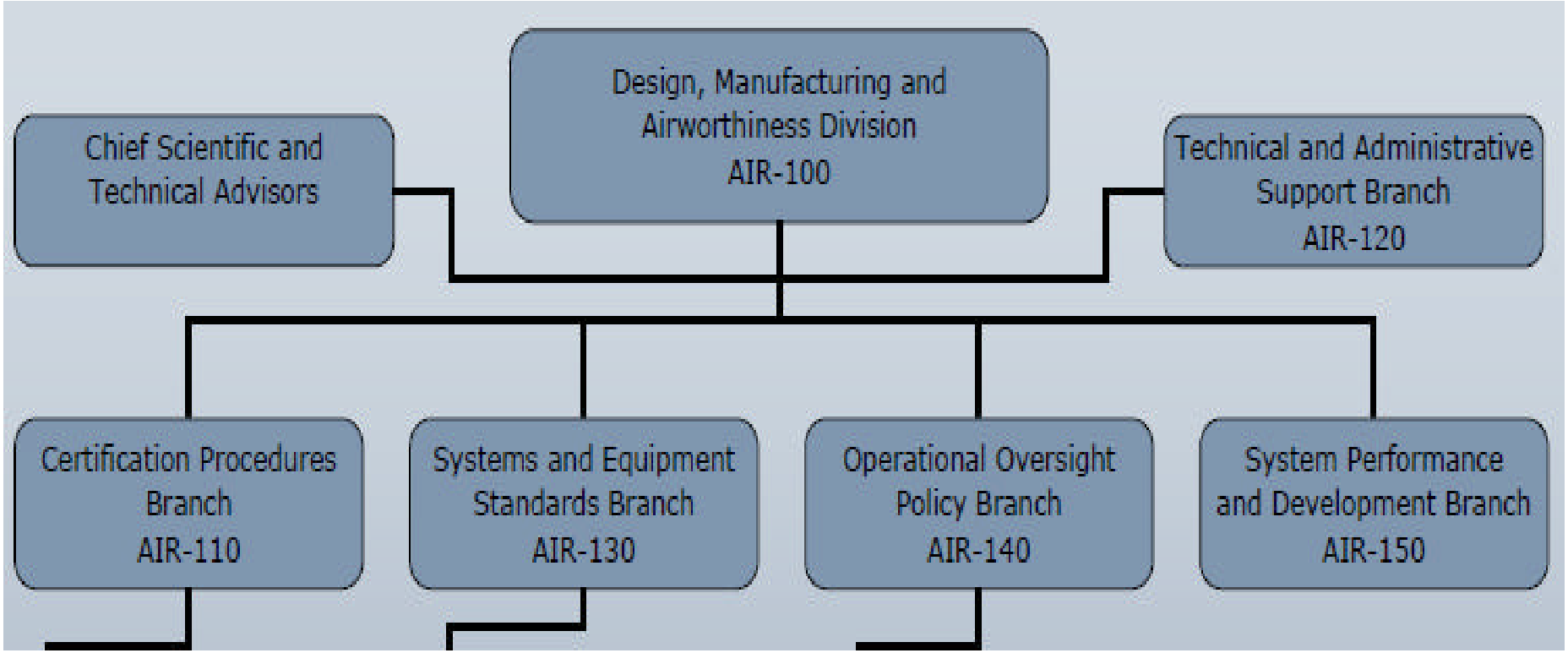
By: Robert Sprayberry, AIR-111; 202.385.6310

Date: March 27th, 2014

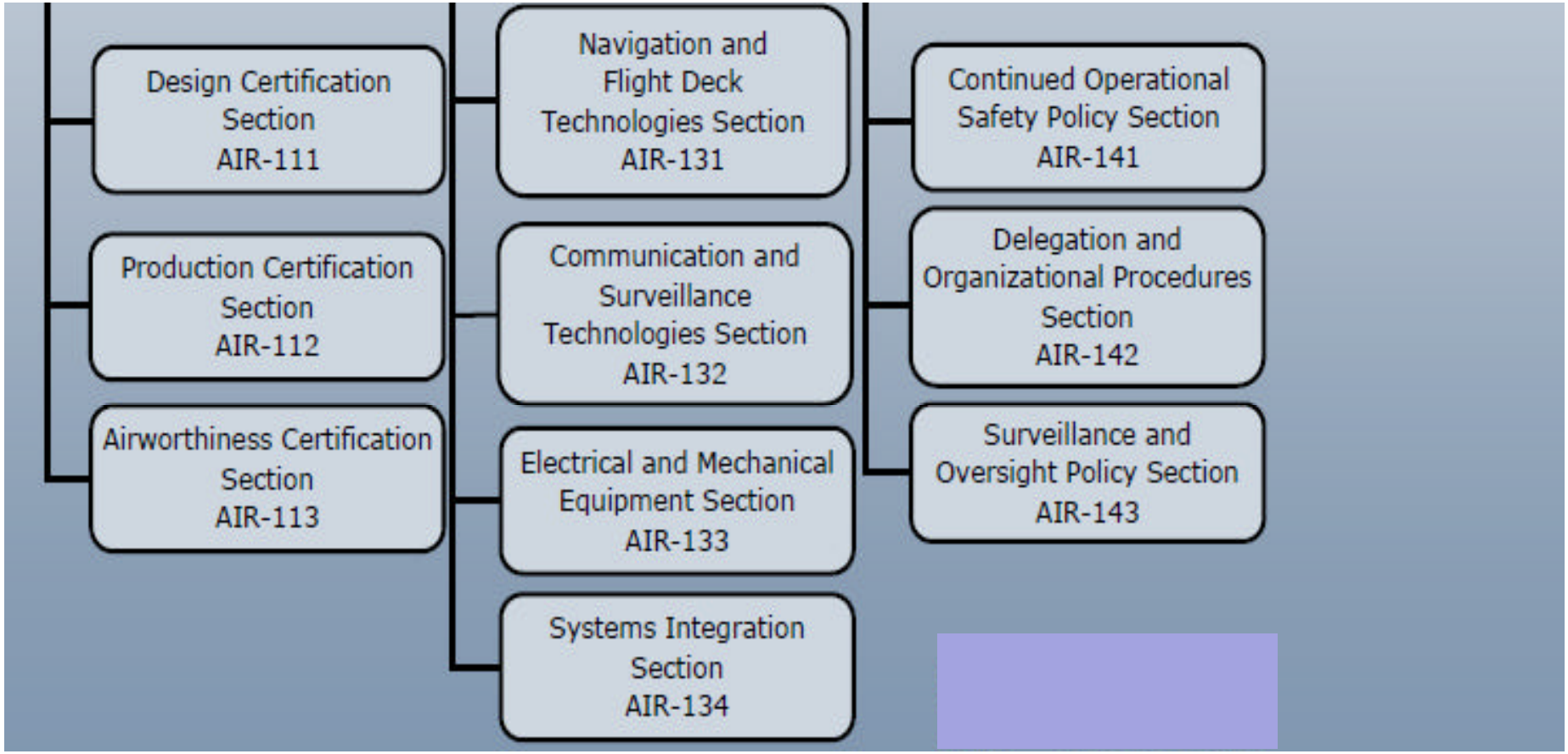
Topics

- **New Faces in AIR-110**
- **Order 8110.42 D**
  - Overview of Comments
  - Highlighted changes
  - Items of note
- **AC 21.303-2**
  - Overview of Comments
  - Highlighted changes
  - Items of note
- **Streamline PMA Update**

The New AIR-100



The New AIR-100, Cont'd



Who is Robert Sprayberry?

- **I have been with the FAA for 5 years**
  - Started with the Atlanta ACO as a Structures Engineer
- **Moved to AIR-110 in Sept. 2012**
  - Specifically assigned to AIR-113
- **Transitioned to work the PMA Policy in Nov. 2012**
  - Handled the disposition of FAA internal comments and public comments for the draft PMA Order
  - Currently addressing guidance questions for the revised PMA Order

Change History

- **Changes to 14 CFR part 21**
  - Effective April 16th, 2011
  - Revised parts approval regulations and created 14 CFR 21.8; *Approval of Articles*
- **Order 8110.42 was revised to Rev. D to align with these 14 CFR part 21 changes.**
  - Rev.C “what to expect from the applicant” was moved into the new Advisory Circular (AC) 21.303-2
- **Ref. RGL for all applicable guidance**

8110.42D Overview of Comments

- **Field Comments:**
  - 342 Total Comments
    - 71 Not Adopted
    - 51 Partially Adopted (adopted but with caveats)
    - 220 Adopted
- **Public Comments:**
  - 70 Total Comments
    - 32 Not Adopted
    - 13 Partially Adopted (adopted but with caveats)
    - 3 Answer Question
    - 1 N/A
    - 22 Adopted

8110.42D Highlighted Changes

- **RBRT is not required**
  - Risk based assessment is required but the RBRT tool itself is not
  - Stay tuned for the stand-alone RBRT Order
- **Accredited/Qualified Labs**
  - We do not require this but we define the difference
  - The discretion is with the ACO on a project-by-project basis
- **Introduces PartSCP**
  - Similar to a PSCP but specific for PMA projects
  - Aligns with the new Streamline Order 8110.119

8110.42D Highlighted Changes

- **Make/Model/Series info**
  - New guidance is coming out from AIR-100
  - The PMA Supplement now shows (TCH)
- **Critical Part (harmonized w/ FAA/EASA TIP)**
  - Common definition between authorities to the advantage of the industry
  - Specific to the PMA discussion, does not take precedence of other definitions found in regulation
- **Marking location and methods**
  - Part of the design data is how they comply with 14 CFR 45.15, must be defined

8110.42D Highlighted Changes

- **Pre approval v. Post approval minor changes**
  - 14 CFR 21.93 speaks to the appreciable effect on the product
  - 14 CFR 21.319 speaks to the appreciable effect on the PMA's approval basis
- **Revising the supplement**
  - The supplement structure is set, formatting is fluid
  - Headings, footers, signatures, etc… are required as shown

8110.42D Highlighted Changes

- **Know your directorate specific guidance**
  - LLPs, Critical Parts, and influencing parts are dependent on the article's installation and thus the associated directorate guidance
- **Changes in Licensing Agreement status**
  - A change in status does not affect compliance w/ airworthiness regulations, unless design changes occur
  - Transitioning to Identicality w/o an agreement is a major change (14 CFR 21.319), but it's still identical
  - Transitioning to Test and Comp is a major change that requires full re-evaluation from the ACO

8110.42D Items of Note

- **Use of discretionary function**
  - ACOs make the call on a project-by-project basis
- **Safety Assessment v. Safety Analysis**
  - Assessment is a PMA requirement and defined in the Order while analysis at the discretion of the ACO
- **Installation eligibility limitations**
  - Follow the TCDS and the applicant's data
  - "All Makes/Models" is all wrong
- **"Notification Letter" of Design Approval**
  - Notification only, the design approval is the ACO's signature on the PMA Supplement

AC 21.303-2 Overview of Comments

- **Field Comments:**
  - 479 Total Comments
    - 82 Not Adopted
    - 94 Partially Adopted (adopted but with caveats)
    - 303 Adopted
- **Public Comments:**
  - 101 Total Comments
    - 44 Not Adopted
    - 29 Partially Adopted (adopted but with caveats)
    - 3 Statements
    - 25 Adopted

AC 21.303-2 Highlighted Changes

- **Based off of 8110.42 C, Chapter 2**
  - Not word for word but the same basic outline
- **Speaks directly to the applicant**
  - Set the expectations for the preferred method for showing compliance
- **Follows the lead of the PMA Order**
  - Specifies the content of the application package for test and comp PMAs
  - Following the AC does not guarantee the ACOs will accept applicant showings only

AC 21.303-2 Items of Note

- **Sets the preferred method of compliance**
  - Establishes the FAA's expectations
- **Min. number of samples (recommended 3)**
  - Not a one-size-fits-all approach
  - Provides a baseline to expand from
- **Definitions are synced with the Order**
  - If conflict arises, defer to the PMA Order
- **Highlights mixing of General and Comparative Analysis**
  - Cannot mix Identicality and Test and Comp

AC 21.303-2 Items of Note

- **Lays out the content of a Safety Assessment**
  - Not Safety Analysis (qualitative in nature)
  - Open communication between the applicant and ACO is stressed
- **Identifies acceptable installation eligibility data**
  - No longer “emphasizes” a weight of evidence approach
  - Aircraft operators can provide assist letters

AC 21.303-2 Items of Note

- **Accredited/Qualified Labs**
  - Sets the expectation that one or the other is used
  - Defines the difference for PMA projects
  - FAA does not set the accreditation standards
- **Added tools to utilize**
  - Compliance listings
  - Guidance on the statement of compliance per 21.303(a)(5)

Streamline PMA Update

- **We have seen approximately 8 agreements established among the various ACOs**
  - Many ACOs have utilized the concept to initiate new agreements
  - Some ACOs have more robust agreements already in place
  - Some ACOs forgo this option (discretionary)
- **What is your experience?**
  - Streamline PMA, MoU/MoA, PMA ODAs

Ideas in the Hopper

- **Electronic Supplements**
- **Re-formatting RGL to reflect actual supplements**
- **Expanding MoA/MoU beyond Streamline**

- **Additional suggestions are welcome!**
  - Note the last pages of the Orders and AC

Questions????

New general email address:

9-AWA-AIR111-PMAarticles@faa.gov

My Business Card:

Robert Sprayberry

Aerospace Engineer / PMA Policy
FAA Aircraft Certification Service - L'Enfant Plaza
Aircraft Certification Service -
Certification Procedures Branch AIR-110
Design Certification Section, AIR-111
T: 202.385.6310
E: robert.sprayberry@faa.gov