AVIATION RULEMAKING ADVISORY COMMITTEE (ARAC) MEETING

March 19, 2020 ***1:00 PM – 4:00 PM

- Welcome and Introductions
- Federal Advisory Committee Act (FACA) Statement
- Ratification of Minutes
- Status Reports
    - ARAC
        - Airman Certification System Working Group – Mr. David Oord
            - ❖ Expanded Tasks to include Sport Pilot and Recreational Pilot certificates (Present Recommendation Report to ARAC: TBD)
            - ❖ Covering expanded tasks and proposed timelines (Present Recommendation Report to ARAC: TBD)
        - Part 145 Working Group – Ms. Sarah McLeod
            - ❖ Preliminary Report (Present Preliminary Report to ARAC: 9/10/2020)
            - ❖ Final Report (Present Recommendation Report to ARAC: 9/2021)
        - Designated Pilot Examiner Working Group (Recommendation Report Presented to ARAC: 12/10/2020) – Mr. Sean Elliott
    - Transport Airplane and Engine (TAE) Subcommittee – Mr. Keith Morgan
        - Flight Test Harmonization Working Group – Mr. Brian P. Lee
            - ❖ Topic 15 Pilot Induced Oscillation (Present Recommendation Report to ARAC: 6/18/2020)
            - ❖ Topic 16 Handling Qualities Rating Method (HQRM) (Present Recommendation Report to ARAC: TBD)
            - ❖ Topic 31 Definitions for Vdf/Mdf (Present Recommendation Report to ARAC: 6/18/2020)
        - Transport Airplane Metallic and Composite Structures Working Group – Mr. Doug Jury
            - ❖ Repeat Inspections and Crack Interaction (Present Recommendation Report to ARAC: 6/19/2020)

        - ❖ Structural Damage Capability for Single Load Path Structure (Present Recommendation Report to ARAC: 6/19/2020)
        - ❖ Structural Bonding and "Weak Bonds" (Present Recommendation Report to ARAC: TBD)
    - o Avionics System Harmonization Working Group (Present Recommendation Report to ARAC: 6/18/2020) – Mr. Clark Badie
    - o Ice Crystals Icing Working Group (Present Recommendation Report to ARAC: 12/10/2020) – Ms. Melissa Bravin and Mr. Allan van de Wall
- Recommendation Reports
    - ▪ Flight Deck Secondary Barrier Working Group – Mr. Wolfgang Koch and Mr. Brad Brown
- New Tasking - Training Standardization Working Group
- Any Other Business
    - ▪ FAA update on regulatory activities

ARAC agendas, meeting minutes, and reports are available on the FAA's committee website at https://www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/committee/browse/committeeID/1

AVIATION RULEMAKING ADVISORY COMMITTEE
RECORD OF MEETING

MEETING DATE: December 12, 2019

MEETING TIME: 1:00 PM EST

LOCATION: Federal Aviation Administration
800 Independence Avenue, SW
MacCracken/Huerta Room
Washington, DC 20591

PUBLIC ANNOUNCEMENT: The Federal Aviation Administration (FAA) provided notice to the public of this Aviation Rulemaking Advisory Committee (ARAC) meeting in a *Federal Register* notice published on September 6, 2019 (84 FR 58435).

ATTENDEES: **Committee Members and Alternates**

Yvette A. Rose	Cargo Airline Association (CAA) *ARAC Chair*
David Oord	Aircraft Owners and Pilots Association (AOPA) *ARAC Vice Chair*
Michelle Betcher*	Airline Dispatchers Federation (ADF)
Doug Carr	National Business Aviation Association, Inc. (NBAA)
Tom Charpentier	Experimental Aircraft Association (EAA)
Ambrose Clay*	National Organization to Insure a Sound Controlled Environment (NOISE)
Walter Desrosier	General Aviation Manufacturers Association (GAMA)
Stephane Flori*	Aerospace & Defense Industries Association of Europe (ASD)
Daniel Friedenzohn	Embry-Riddle Aeronautical University (ERAU)
Randy Kenagy	Air Line Pilots Association (ALPA)

Chris Martino	Helicopter Association International (HAI)
Paul McGraw	Airlines for America (A4A)
Keith Morgan*	Pratt & Whitney, Chair of the Transport Aircraft and Engine Subcommittee
George Paul	National Air Carrier Association (NACA)
Leslie Reigle	Aerospace Industries Association (AIA)
Larry Rooney	Coalition of Airline Pilots Association (CAPA)
Melissa Sabatine	American Association of Airport Executives (AAAE)
Bill Whyte	Regional Airline Association (RAA)
Attendees	
Andrew Appelbaum	FlyersRights.org
Melissa Bravin*	The Boeing Company
Brad Brown*	Southwest Airlines
Mary Ann Demarco	CAPA
Sean Elliott	Experimental Aircraft Association (EAA)
Briana Garciallo	Politico
Doug Jury*	Delta Air Lines
Wolfgang Koch*	ALPA
Brian Lee*	The Boeing Company Flight Test Harmonization Working Group Co-Chair
FAA	
Paul Cloutier	Flight Standards Service

Thuy Cooper	Office of Rulemaking
Jim Crotty	Office of Rulemaking
Quentin Flinn	Office of Rulemaking
Jeff Gardlin	Aircraft Certification Services
Ali Gungor	Policy and Planning (APO)
Brent Hart	Office of Rulemaking
Tiffany Jackson	Office of Rulemaking (Intern)
Dan Leach	Policy and Planning (APO)
Trey McClure*	Flight Standards Service
Sara Mikolop	Office of Chief Counsel
Michael Ortiz	Aircraft Certification Services
Lakisha Pearson	Office of Rulemaking
Bill Petrak	Flight Standards Service
Alexandra Randazzo	Office of Chief Counsel
Brandon Roberts	Office of Rulemaking *Alternate Designated Federal Officer (DFO)*
Puja Sardana	The Regulatory Group/FAA
Alan Strom	Aircraft Certification Services

*Attended via teleconference.

Welcome and Introduction

Ms. Yvette Rose, ARAC Chair, called the meeting to order at 1:01 pm. Ms. Rose invited those ARAC members who attended in person to introduce themselves and took a roll

call of ARAC members who attended via teleconference. She then invited members of the public, both in person and on the phone, to introduce themselves. Ms. Rose requested that FAA staff who attended via teleconference email Ms. Thuy Cooper to have their attendance recorded.

Mr. Brandon Roberts, Alternate Designated Federal Officer (DFO), reviewed the procedures in the case of an emergency during the meeting.

Ms. Rose welcomed four new members to ARAC: Daniel Friedenzohn (ERAU), Leslie Reigle (AIA), Bill Whyte (RAA), and Larry Rooney (CAPA).

Mr. Roberts read the required Federal Advisory Committee Act (FACA), Title 5, United States Code (5 U.S.C.); Appendix 2 (2007) statement, and he confirmed that the meeting is public and that members of the public may address ARAC with the permission of the Chair.

Ratification of Minutes

Ms. Rose asked if there was a motion to accept the minutes from the September 19, 2019, ARAC meeting. Mr. Paul McGraw moved to accept the minutes, and Mr. Chris Martino seconded the motion. The ARAC voted to ratify the minutes.

** Presentations and status report briefings presented at the December 12, 2019, meeting may be found at -

- https://www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information/documentID/4162 and

- https://www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information/documentID/4182**.**

Federal Advisory Committee Act (FACA) Overview

Ms. Rose invited the FAA'S Office of Chief Counsel to provide an overview of the FACA requirements. Ms. Alexandra Randazzo (FAA/AGC), introduced herself and pointed out important aspects of the FACA. She reminded everyone that the role of ARAC is advisory in nature and final decisions are made by the Secretary through the FAA. Ms. Randazzo stated that ARAC is to keep Congress updated on its activities, meetings, and other record keeping requirements. She noted that the General Services Administration (GSA) administers all Federal Advisory Committees. Ms. Randazzo spoke about committee membership, member responsibilities, DFO responsibilities, parent committees, and subcommittees. She concluded by reviewing the FACA approval process.

Status Reports

Airman Certification Systems Working Group (ACSWG)

Mr. David Oord, ACSWG Chair, provided the working group's status report, including an overview of membership, a summary of tasking, a look at the group's schedule, and a status of tasking.

Mr. Oord reported that the working group continues to have steady participation of members from every line of business within the FAA Flight Standards organization.

He reviewed the summary of tasking that includes:

- Provide recommendations regarding standards, training guidance, test management, and reference materials for airman certification purposes.
- Continuation of Airline Transport Pilot (ATP), Instructor, and Aircraft Mechanic certificates.
- Revisions for Private, Commercial, Remote Pilot certificates and the Instrument Rating.
- Added Sport and Recreational Pilot certificates –airplane.
- Added Private (PVT), Commercial (COM), ATP, and Instructor certificates and Instrument Rating in additional aircraft categories– Rotorcraft, powered lift, lighter-than-air, glider, etc.

Mr. Oord confirmed the interim report on PVT, COM, ATP, Instructor, and Aviation Maintenance Technology (AMT) certificates and Instrument Rating was completed in June 2018, and the interim report covering expanded tasks and proposed timelines for completions will be done by December 2019. He stated the final recommendation report is on track be completed by June 2020. Mr. Oord reported that the group recently had two meetings in the Washington, DC area, and it has upcoming meetings scheduled for March 17-18 and June 23-24, 2020.

Mr. Oord noted that, as mentioned in the last meeting, the group is looking for an extension, and he will present an exact timeline at the March 2020 ARAC meeting. He stated that delays in publishing new Airman Certification Standards (ACS) and guidance documents now require rulemaking because they use mandatory language for tasks not specifically required in the regulations. Mr. Oord said that this requirement comes from a new DOT policy, stemming from an Executive Order, issued last December, and that any guidance may not contain requirements not explicitly tied to a regulation or statute. Mr. Oord noted that requiring rulemaking for over 30 ACS's will require extensive time and resources. He continued stating that many safety critical recommendations the group has contributed through the ARAC process would have taken years if rulemaking were required to incorporate those improvements. Mr. Oord noted that he does not believe rulemaking would enhance the regular ARAC process, and he believes any hold up in implementing safety would be a major setback.

Mr. Oord said the group submitted a Draft Powered-Lift Flying Handbook that combines elements of airplanes, helicopters, and the new powered-lift content into one handbook. It also provides guidance for the new powered-lift airman certification standard (FAA-S-ACS-17).

Ms. Rose asked if there were any other questions or concerns regarding the DOT rule on rules (https://www.transportation.gov/sites/dot.gov/files/docs/regulations/359656/administrative-rule.pdf.) that Mr. Oord referenced. Ms. Rose noted it is expected to be a direct final rule. In response to a question about the scope of the final rule, an ARAC member answered that all advisory circulars, policy statements, and orders would be subject to review.

Ms. Rose asked if there was a motion to send the ACS draft report (the handbook with supporting guidance) to the FAA. Mr. Doug Carr motioned, and Mr. Tom Charpentier seconded the motion. ARAC voted in favor of submitting the report.

Part 145 Working Group

In the absence of the working group chair and co-chair, Mr. Paul Coultier (the FAA representative in the working group) provided the Part 145 status report including an overview of membership, a summary of tasking, a look at the working group's schedule, and a status of tasking.

Mr. Coultier explained that when the working group started, it wanted a good sample of membership from everywhere involving repair stations. He stated that a few members of the Part 145 Working Group have dropped out, but the working group has not seen any adverse impact from that. Mr. Coultier covered the group's summary of tasking, and he explained that they are still in the preliminary stages of researching analysis of trends, intents of rules, and explanations of guidance. Mr. Coultier reviewed the schedule that includes the preliminary report expected in December 2020, and a final report done by December 2021. He confirmed that the group's tasking is on track. Mr. Coultier explained that the group is looking at the whole spectrum to get a standardized concept. He noted the group is considering concepts of moving advisory guidance out of inspector handbooks and into advisory circulars.

Mr. George Paul asked if the working group was referring to FAA Order 8900.1 *Flight Standards Information Management System (FSIMS)* for the inspector. Mr. Coultier stated yes, but noted that it drifts into guidance for repair stations. Mr. Paul noted that his opinion differs and if an airline is complying with the rule, and it is not in the handbook, then it is irrelevant.

Designated Pilot Examiner Reform Working Group (DPEWG)

Mr. Sean Elliott (EAA), DPEWG chair, provided a status report.

Mr. Elliott noted that there are currently 21 members on the working group with a range of experience. He explained the tasking of the group is to look at DPE regulations and policy as it exists today and analyze what it needs to be for the future. Mr. Elliott reviewed the summary of tasking.

Mr. Elliott reviewed the schedule that included a meeting held in October and future meetings in March and in June. He explained that there are three subgroups that meet bi-weekly -- DPE Selection Process, Training Elements and Mentoring, and Deployment/Oversight. He noted that he feels confident the working group will meet the December 2020 deadline for the final report.

Ms. Rose reminded new working groups that per the FAA Committee Manual, they should submit a work plan to the ARAC Chair. She encouraged members to look at the Committee Manual as a refresher.

Mr. Doug Carr inquired about which Organization Designation Authorization (ODA) elements the group is looking at. Mr. Elliott stated the group is looking at ODA as a structured tool to achieve more meaningful support of the examining process. Mr. Carr asked for further clarification in identifying how the ODA process could be beneficial for the FAA's program. Mr. Elliott noted recommendations could be beneficial to help streamline the process and enable specialty areas to have better support.

Transport Aircraft and Engine (TAE) Subcommittee

Mr. Keith Morgan, TAE Subcommittee Chair, provided the TAE status report. He stated that membership is constant and that the group has added a new member. He continued with the schedule and stated that the group had four formal meetings in 2019, and it has four meetings scheduled for 2020. He stated that there are currently five active TAE Subcommittee working groups: Flight Test Harmonization, Transport Airplane Metallic and Composite Structure, Ice Crystal Icing, Avionic Systems Harmonization, and Secondary Cockpit Barriers. Mr. Morgan stated that he would provide a brief overview for four of the TAE working groups, and the Secondary Cockpit Barriers Working Group co-chairs will provide a status of that tasking. Mr. Morgan stated that TAE's work plan includes three reports due in March 2020, four reports due in June 2020, and a final report in December 2020.

Flight Test Harmonization Working Group (FTHWG)

Mr. Morgan provided the report for the FTHWG, including an overview of membership, a summary of tasking, a look at the working group's schedule, and a status of tasking.

Mr. Morgan stated that there are a few changes in the FTHWG's membership, but it is continuing to get through its tasking.

Mr. Morgan confirmed Phases 1 and 2 are complete, and the group is currently in Phase 3. He noted that the following topics of Phase 3 are left:

- Pilot Induced Oscillation.
- Handling Qualities Rating Method (+17).
- Definitions of Demonstrated flight diving speed (Vdf/Mdf) (esp. for limited airplanes).

Mr. Morgan expressed there is some difficulty with Phase 3 that may be moved into Phase 4. He reviewed the working group's schedule and status of tasking.

Mr. Morgan addressed a few areas of concerns primarily dealing with awaiting approval for a new request for participation from the Boeing/Embraer joint venture and for ATR from DOT. Mr. Brandon Roberts clarified that subcommittee and working members are not approved by the Department. The Secretary approves the appointment of ARAC members only. The FAA Office of Chief Counsel vets proposed subcommittee and working group members.

Transport Airplane Metallic and Composite Structures Working Group

Mr. Morgan provided the status report for the Transport Airplane Metallic and Composite Structures Working Group, including an overview of membership, a summary of tasking, a look at the working group's schedule, and a status of tasking.

Mr. Morgan said that the membership includes good representation.

Mr. Morgan explained that the original tasking had 12 topics that were submitted and approved by ARAC. The working group has the following three additional topics that were carried over.

1. Structural Damage Capability (SDC) for Single Load Path (SLP) structure: Develop requirements and guidance material for SLP structure, which by definition has no SDC.

2. Structural Bonding and "Weak Bonds."
   FAA requested further clarification from the working group on how to address disbands and weak bonds as a manufacturing defect.

3. Repeat Inspections & Crack Interaction.

Advisory Circular (AC) 91-82A provides evaluation considerations for establishing inspection thresholds and repeat intervals, including consideration of crack interaction with little guidance in the AC. Based on this, the FAA is requesting information from the working group on how to address crack interaction when establishing inspection programs. Mr. Morgan stated the reports for items 1 and 2 are expected to be done by March 2020, and the report for item 3 should be done and submitted to ARAC by the June 2020 meeting.

Mr. Morgan reviewed the group's deliverable schedule.

Ice Crystals Icing Working Group (ICIWG)

Mr. Morgan provided the status report for the ICIWG, including an overview of membership, a summary of tasking, a look at the working group's schedule, and a status of tasking.

Mr. Morgan stated the member list includes great representation across the industry.

Mr. Morgan explained the summary of tasking is focused on Appendix D to 14 Code of Federal Regulations (CFR) part 33. He reviewed the schedule that included regular face-to-face meetings and some teleconferences. He summarized the status of tasking as being investigative in developing a response to the tasking. Mr. Morgan noted that the working group currently does not need any help or support from ARAC at this time.

Avionics System Harmonization Working Group (ASHWG)

Mr. Morgan provided the status update on the ASHWG.

Mr. Morgan stated that the group's tasking is mainly focused on low energy alerting. He reviewed the group's schedule of meetings. He noted that the report is being developed with some proposed changes, and the group plans to have a report to TAE by March 2020 and to ARAC by June 2020. Mr. Morgan noted that the group currently does not need any help or support from ARAC at this time.

Secondary Cockpit Barriers Working Group

Mr. Wolfgang Koch and Mr. Bradley Brown, the working group co-chairs, provided the status report.

Mr. Koch noted that the group recently had its first face-to-face meeting after several phone calls. He acknowledged that report writing has begun, and he said that the initial report from sub-group leads should submitted this month, December 2019.

Mr. Koch explained that there are three sub-groups in the working group: Technical, Implementation, and Operations. He noted that the Implementation group is concerned about how much input they will be able to give without knowing what the regulation will look like.

Mr. Koch reviewed the schedule that includes a couple of calls scheduled in December 2019, one of which is to schedule the next face-to-face meeting. The working group has deadlines for comments due on the final draft by February 7, 2020, and they hope to submit the final report to TAE by February 20, 2020 and to the ARAC by March 20, 2020. He explained that this is an accelerated timeframe, but they hope to meet it.

Mr. Koch noted that the group is also working on cost analysis research, and Mr. Brown (Southwest Airlines) explained the working group's steps in creating an accurate cost-benefit analysis.

Mr. Doug Carr asked about applicability and if the working group sees this as limited to 14 CFR part 121 or if the recommendations will also apply to 14 CFR part 129carriers. Mr. Koch stated that the group has discussed this, and the consensus is that this is not a 14 CFR part 129 issue, but he does not have a more definitive answer at this time. Mr. Jeff Gardlin (FAA) added that 14 CFR part 121 is not necessarily dependent on airplane size and the group will address applicability.

Ms. Rose asked if membership was open to subject matter experts, and the group noted that, so far, it has relied heavily on FAA's participation, but it invites participation from technical experts Anyone that is interested in participating as a subject-matter expert should reach out to the working group's co-chairs.

Updates to Regulatory Activities

Mr. Brandon Roberts stated that Ms. Thuy Cooper will send out a link to the DOT order referenced earlier. He also informed ARAC that the FAA has five new projects included in the Fall Unified Agenda.

- Modernization of the Special Airworthiness Certification (MOSAIC) Notice of Proposed Rulemaking (NPRM)
- Medical Certification Standards for Passenger Carrying Balloon Operators NPRM (publication in 2020)
- Prohibition Regarding Weapons (specifically for UAS) NPRM
- Airplane Co2 Emissions Certifications Standards NPRM
- Miscellaneous Amendments Final Rule

Other Business

Mr. Roberts informed ARAC that the Safety Oversight and Certification Advisory Committee met on November 13th. The next meeting is scheduled for spring 2020.

Ms. Rose provided the meeting schedule for the remainder of fiscal year 2020.

- Thursday, March 19
- Thursday, June 18
- Thursday, September 10

Adjournment

Ms. Rose adjourned the meeting at 2:40 pm.

Airman Certification System Working Group
Status Report to the Aviation Rulemaking Advisory Committee

David Oord
Working Group Chair

March 4, 2020

MEMBERS of ACSWG - INDUSTRY

- David Oord, Lilium
- Paul Alp, Jenner & Block
- Cindy Brickner, SSA
- Paul Cairns, ERAU
- Kevin Comstock, ALPA
- Chris Cooper, AOPA
- Mariellen Couppee, Honeywell
- Eric Crump, Polk State College
- David Dagenais, FSCJ
- Maryanne DeMarco, CAPA
- Anna Dietrich, CAMI
- Rick Durden, Independent
- Megan Eisenstein, NATA
- David Earl, Flight Safety
- Tom Gunnarson, KittyHawk
- Lauren Haertlein, GAMA
- John Hazlet Jr., RACCA
- Jens Hennig, GAMA
- Chuck Horning, ERAU
- David Jones, Avotek
- John King, King Schools
- Janeen Kochan, ARTS Inc.
- Kent Lovelace, UND
- Justin Madden, AMFA
- John McGraw, NATA
- John “Mac” McWhinney, King Schools
- Crystal Maguire, ATEC
- Nick Mayhew, L3
- Phillip Poynor, NAFI
- Jimmy Rollison, FedEx
- JR Russell, NBAA
- Mary Schu, Mary Schu Aviation
- Roger Sharp, Independent
- Jackie Spanitz, ASA
- Burt Stevens, Oxford Flying Club, Inc.
- Robert Stewart, Independent
- Tim Tucker, Robinson
- Robert Wright, NBAA
- Donna Wilt, SAFE
- Roger Woods, Leonardo
- Philipp Wynands, Metro Aviation

MEMBERS of ACSWG – FAA SMEs

- Susan Parson
- Barbara Adams
- Bill Anderson
- Brianna Aragon
- Robert Burke
- Dennis Byrne
- James Ciccone
- Bryan Davis
- Joel Dickinson
- Mike Duffy
- Troy Fields
- Ramona Fillmore
- Adam Giraldes
- Shawn Hayes
- Vanessa Jamison
- Laurin J. Kaasa
- Jeffrey Kerr
- Ricky Krietemeyer
- Mike Millard
- Anne Moore
- Kevin Morgan
- Margaret Morrison
- Richard Orentzel
- Katie Patrick
- Andrew Pierce
- Robert Reckert
- Jason Smith
- Shelly Waddell Smith
- Jeff Spangler
- Robert Terry
- Matt Waldrop
- Larry West
- Stephanie Williams
- Bill Witzig
- Jimmy Wynne

SUMMARY OF TASKING

- Provide recommendations regarding standards, training guidance, test management, and reference materials for airman certification purposes.
- Continuation of ATP, Instructor, and Aircraft Mechanic certificates.
- Revisions for Private, Commercial, Remote Pilot certificates and the Instrument Rating.
- Added Sport and Recreational Pilot certificates – airplane.
- Added Private, Commercial, ATP, and Instructor certificates and Instrument Rating in additional aircraft categories–
  - Rotorcraft, powered lift, lighter-than-air, glider, etc.

SCHEDULE

- Interim reports
  - PVT, COM, ATP, Instructor, and AMT certificates and Instrument Rating – no later than June, 2018 - complete
  - Covering expanded tasks and proposed timelines for completion – no later than December, 2019
- Final recommendation reports no later than June 12, 2020

SCHEDULE

- 2020 Meetings –
  - March 17 & 18
  - June 23 & 24

STATUS OF TASKING

- Continued progress on Standards, Guidance, and Test Management
  - Aviation Instructor's Handbook
  - Airplane Flying Handbook
  - Risk Management Handbook
  - Refinement and improvement of existing Standards
    - Change management process
  - New test management service implemented
- Will require more time to successfully complete all taskings

AREAS of ARAC CONSIDERATION

- **Charter Extension Request –**
  - With the addition of Sport and Recreational Pilot certificates – airplane;
  - Additional aircraft categories (Rotorcraft, Powered-Lift, Lighter-than-air, Glider, etc.;
  - Year-long process to add new members;
  - Partial government shutdown; and
  - Public review and comment of new standards through FR posting –
    - Respectfully request an extension of the charter to complete all taskings
    - Final recommendation reports no later than December 1, 2021

For the current status of the Part 145 and Designated Pilot Examiner Working Groups, please see the December 2019 status reports on the FAA Committee website at https://www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information/documentID/4162.

Transport Aircraft and Engines Subcommittee Status Report to the Aviation Rulemaking Advisory Committee

Keith R. Morgan
Subcommittee Chair

19 March 2020

MEMBERS of the Transport Aircraft and Engines Committee

Pratt & Whitney
ALPA
A4A
ASD
Airbus
Boeing
GAMA
AIA
Bombardier
NADA/F
Embraer
SRCA

SCHEDULE

- 2020 Meetings:
  - Telecom January 28, 2020
  - Face-to-face April 21, 2020 (Washington)
  - Telecom July 28, 2020
  - Face-to-face October 27, 2020 (Washington)

Active Working Groups

- Flight Test Harmonization
- Transport Aircraft Metallic and Composite Structures
- Ice Crystal Icing
- Avionic Systems Harmonization
- Secondary Cockpit Barriers

Planned 2020 Report Submittal Schedule to ARAC

- March 2020
  - Flightdeck Secondary Barriers
- June 2020
  - TAMCSWG SDC-SLP
  - FTHWG Vdf/Mdf
  - FTHWG Pilot Induced Oscillation
  - ASHWG final report
- September 2020
  - TAMCSWG Structural bonding
  - TAMCSWG Crack Interaction
- 2021
  - ICIWG final report

Flight Test Harmonization Working Group Status Report to the Aviation Rulemaking Advisory Committee

Brian P. Lee, Boeing

Laurent Capra, Airbus

Working Group Chairs

28 January, 2020

MEMBERS of Flight Test Harmonization Working Group

Authorities	OEM's		Operators	Observers
FAA Joe Jacobsen Bob Stoney Paul Giesman	Airbus Laurent Capra + SME's	Embraer Murilo Ribeiro + SME's	ALPA Rikki Gardonio Len Quiat	JCAB (Japan) Takahiro Suzuki Atsushi Fukui
EASA John Matthews Marco Locatelli	Boeing Paul Bolds-Moorehead + SME's	Gulfstream Mike Watson +SME's		CAAI (Israel) Yshmael Bettoun
Transport Canada Lee Fasken	Bombardier Tony Spinelli +SME's	Textron Kurt Laurie +SME's		Norwegian Airlines John Lande
ANAC (Brazil) Pedro Donato	Dassault Philippe Eichel +SME's			

MEMBERS of Flight Test Harmonization Working Group (Phase 4)

Authorities	OEM's			Observers
FAA Joe Jacobsen Bob Stoney Paul Giesman	Airbus Philippe Genissel + SME's	Embraer Tiago Costa + SME's	ATR Matthieu Ollivier Jean-Pierre Marre +SME's	JCAB (Japan) Shinsuke Yamauchi Teruke Koike CAAI (Israel) Yshmael Bettoun
EASA Matthias Schmidt Marco Locatelli	Boeing Matt Muehlhausen + SME's	Gulfstream Mike Watson +SME's	Airbus Canada Scott Black Joel Boudreault +SME's	Norwegian Airlines John Lande Delta Airlines David Anvid
Transport Canada Lee Fasken	Bombardier Tony Spinelli +SME's	Textron Kurt Laurie +SME's	DeHavilland Canada Eric Herrmann +SME's	Operators
ANAC (Brazil) Pedro Donato	Dassault Philippe Eichel +SME's	Boeing Brasil – Commercial Murilo Ribeiro +SME's		ALPA Rikki Gardonio John Cinnamon

SUMMARY and STATUS of TASKING

- Transport Aircraft Performance and Handling Characteristics
- Long list of topics prioritized in Phase 1 (June, 2013 – June, 2014)
- Phase 2 Complete
- Phase 3: (End of tasking: 30 March, 2020)
  - 15 . Pilot Induced Oscillation (Considered on-track for March, 2020)
  - 16. Handling Qualities Rating Method (+17) (On hold, Restart in Phase 4)
  - 17. ~~Failure Assessment Methodology~~
  - 18. Go-Around Performance
  - ~~19. Use of Amber Band on Airspeed Tape~~ (Sent to ASHWG; Now dropped from consideration)
  - 20. Return-to-Land
  - 30. Directional Control Below Vmc on Slippery Surfaces
  - 31. Definitions of Vdf/Mdf (esp. for limited airplanes) (Considered on-track for March, 2020)
- Phase 3 Strategic Considerations
  - Considered to be aggressive
  - FTHWG began work ahead of formal tasking
- ASHWG: Low Energy Alerting
  - FTHWG is participating with ASHWG (B. Lee is Liaison)

STATUS OF TASKING

- Phase 3: FTHWG considers activity on-track / on-schedule…with some caution at this point
  - Directional Control below Vmc on Slippery Surfaces - **COMPLETE**
  - Go-Around Performance (Topic 18) - **COMPLETE**
  - Return to Land - **COMPLETE**
  - Vdf/Mdf for protected aircraft
    - Added Loads and Dynamics specialists as this topic extends into Subpart C
    - Completion prior to the end of Phase 2 (31 March, 2020) seems achievable
  - HQRM
    - Harmonization of this topic is proving more difficult and multi-faceted than originally envisioned; we didn't have the right population of expertise.
      - Task progress is on hold while we add SME's from Systems Safety and Flight Controls disciplines.
  - Pilot Induced Oscillation
    - 6rd face-to-face meeting December, 2019; telecons continuing
    - Considered on-track / on-schedule to finish March, 2020
- Phase 4 Planning Complete – ready for formal tasking
- ASHWG: Low Energy Alerting
  - FTHWG is participating (B. Lee is the liaison)
  - Addressed by FTHWG in December, telecons in January to consolidate comments
    - ASHWG continues to debate proposed regulation wording
  - Next telecom: 6 Feb

STATUS OF TASKING ACTIVITIES

- →FTHWG-52 : 2-6 Dec 19 Meeting Savannah (Gulfstream) (Topics 15 PIO-16 HQRM; Phase 4)
- 7 January: (ASHWG)
- 21 January, (PIO)
- 28 January (AHSWG)
- 4 February (Vdf/Mdf)
- 11 Febrary (PIO)
- 18 February (Prep for Topics 32 TALPA and 33 Dry Runway Braking)
- 25 February (PIO)

Activity since Dec, 2019

- →FTHWG-53 : 2-6 Mar 20 Meeting Bordeaux (Dassault)

AREAS for ARAC CONSIDERATION

- Many new members for Phase 4, all are anxious to get started
  - FAA vetting process is progressing
- No additional guidance needed from FAA or ARAC

Transport Airplane Metallic and Composite Structures Working Group

Recommendation Report, Extension Topics, Briefing to the TAE – January, 2020 meeting

Doug Jury (Delta Air Lines)
Working Group Chair

January 28, 2020

Members of the Working Group

- Industry WG voting members:
  1. Michael Gruber (Boeing)
  2. Chantal Fualdes (Airbus)
  3. Salamon Haravan (Bombardier)
  4. Benoit Morlet (Dassault Aviation)
  5. Antonio Fernando Barbosa (Embraer)
  6. Kevin Jones (Gulfstream)
  7. Toshiyasu Fukuoka (Mitsubishi Aircraft)
  8. David Nelson (Textron Aviation)
  9. Phil Ashwell (British Airways)
  10. Doug Jury (Delta Air Lines) –Chairperson
  11. Mark Boudreau (FedEx)
  12. Eric Chesmar (United Airlines)
- NAAs: FAA (Walt Sippel, Larry Ilcewicz, Michael Gorelik, Patrick Safarian; EASA (Richard Minter, Simon Waite); ANAC (Pedro Caldeira, Marco Villaron, Fabiano Hernandes); TCCA (Jackie Yu, Natasa Mudrinic); JCAB (Hiroshi Komamura – new participant)

SUMMARY OF ORIGINAL TASKING

With the increased use of composite and hybrid structures recommendations regarding revision of the **fatigue and damage-tolerance requirements** & associated guidance material were previously provided in Final Report, dated 6/27/2018

Tasking was divided up into the following 12 focus areas:

1. Threat Assessment
2. Emerging material technology
3. Inspection Thresholds
4. Structural Damage Capability – Fail-safety
5. Aging, WFD & LOV (including ultimate strength & full-scale fatigue test evidence)
6. Testing (related to composite and hybrid materials including WFD test demonstration)
7. Repairs (bonding / bolting)
8. Modifications
9. EASA aging aircraft rulemaking and harmonization
10. Rotorburst
11. Disposition of cracking during full-scale fatigue testing
12. Accidental damage inspections included in the ALS conflicts w/ MSG-3 program

During final report submission and review by ARAC in September, 2018 three separate topics were raised as needing further evaluation and recommendation from this existing WG.

SUMMARY OF TASKING – extended topics

Three additional items for rule & guidance recommendation development

1. Structural Damage Capability (SDC) for Single Load Path (SLP) structure:

- Develop requirements and guidance material for single load path (SLP) structure, which by definition has no SDC

2. Structural Bonding and “Weak Bonds”

- FAA requests further clarification from the working group on how to address disbonds and weak bonds as a manufacturing defect

3. Repeat Inspections & Crack Interaction

- Advisory Circular 91-82A provides evaluation considerations for establishing inspection thresholds and repeat intervals, including consideration of crack interaction with little guidance in AC. Based on this, the FAA is requesting information from the working group on how to address crack interaction when establishing inspection programs.

SUMMARY OF TASKING – extended topics (continued)

Working Group continues to work through each of these three items through smaller tasking groups, consisting of 4-8 WG member teams (aka subteam)

Working Group face-to-face meeting in Atlanta, GA (Delta Air Lines TechOps facility): 10/8-11/2019

Final report delivery scheme will be three separate reports

Overall progress is favorable – some expected challenges with meeting crack interaction report deliverable date have been confirmed at face-to-face

- SDC/SLP & structural bonds guidance development is progressing with little challenge to-date.
- Evident there is wider variety of engineering positions on guidance for crack interaction – some generally favorable direction on development of guidance recommendations.

SUMMARY OF TASKING – extended topics (continued)

Item 1: Structural Damage Capability (SDC) and Single Load Path (SLP) Structure

- develop requirements and guidance material for single load path (SLP) structure, which by definition has no SDC
- no rule change - original recommendation for impractical has been revisited & recommendation is to rescind original
  - Report will intend to clearly lay out case to why previous position is changing:
    - Difficult to establish what is “impractical”
    - Seeking to avoid prescriptive rules
    - Proposed rule change may not achieve safety improvement relative to overall cost
- Recommended Guidance Changes:
  - 4 separate aspects for consideration when using SLP (incrementally different from standard MLP construction):
    - Minimization of environmental & accidental damage
      - WG working to resolve “normal maintenance”
    - Perform fatigue test to demonstrate acceptable level of fatigue reliability
      - WG working to resolve “target” reliability – likely not a prescriptive target value
    - Perform testing to demonstrate controlled, slow crack growth
    - Develop manufacturing control plan
  - Additional discussion in report on integrally stiffened panels as SLP
- Proposed recommendation has matured past concept and is in process with iterative draft & review process by smaller team – expected to get full WG review starting mid-Feb
- Because we are relatively close to having a report to be submitted, WG focus is to get this provided to TAE

SUMMARY OF TASKING – extended topics (continued)

Item 2: Structural bonds & Weak Bonds

- FAA requests further clarification from the working group on how to address disbands and weak bonds as a manufacturing defect
  - "Weak bonds listed under manufacturing defects is somewhat confusing because, although it is clearly a manufacturing defect, it is unlike any of the other manufacturing defects that are typically listed (i.e., all others are relatively small and either starter flaws for metal fatigue or allowable defects for composites)."
  - "Bonding may be acceptable to use if stringent/reliable manufacturing in-process quality control practices are in place to ensure that a weak bond is: 1) extremely rare (justifying the size constrained by 2.) and 2) localized to a size at or within arresting design features."

- No rule change proposed.
- Guidance changes under consideration:
  - AC 20-107B: additional modification – proposed change recommendations for WG review: Parag. 6, 8, 10
  - AC 25.571-1D: under the original report (section 3.1.2 wrt metal-to-metal bonding)
  - AC 21-26: reviewed but no changes proposed because of no mention of structural bonding
  - BRSL – proposed edits to para. 10 in AC 20-107B; objective: alignment with BRSL
- Rationale for quality control document content
- New commitment from WG participant organization to dedicate resources to translate recommendation "outline" to a draft report
- Expect once SLP team report is produced, path for structural bonds and crack interaction reports should be somewhat easier

SUMMARY OF TASKING – extended topics (continued)

Item 3: Crack interaction

- Team direction:
  - Rule change:
    - No – general consensus position as of now
    - Currently one dissenting position related to harmonization with EASA rule language – group to be re-queried with new information discussed at F2F
  - Guidance changes:
    - No voiced opposition with notional direction
    - Example cracking scenarios (real images, FAA participant recommended example, other schematic model examples?)
    - EASA language from AMC 20-20 in 25.571-1D
    - Airbus, Embraer, Bombardier proposal language: crack interaction to be considered in cases where it is expected
  - Report items:
    - Tasking boundary between WFD scenarios discussion for report
    - Omission of threshold and rationale discussion
    - Are recommendations warranted from safety perspective? Discussion about inclusion of AD surveys needs documentation of methodology and results, otherwise need to remove this position – also need some discussion about other DAHs not included in this WG (STC holders, etc). If this is not well presented in compelling way, will likely be omitted from report.
- ECDs will be subject to agreement and comments received from WG members on content in draft

Deliverable & Schedule

Deliverable: three reports containing:

- Recommendations on appropriate performance-based requirements
- Recommendations on any new guidance or changes to existing guidance
- Qualitative and quantitative costs and benefits of the recommendations

Milestones:

~~•TAE Status 2~~	~~March 2019~~
~~•WG face to face meeting (San Francisco)~~	~~April 2019~~
~~•TAE Status 3~~	~~May 2019~~
~~•Second *Face to Face, ATL*~~	~~Oct 2019~~
~~•TAE Status~~	~~Nov 2019~~
•Three recommendation reports – submitted to TAE	
•1: Structural Damage Capability – Single Load Path	Mar 2020
•2: Structural Bonding	Apr 2020
•3: Crack Interaction	ECD (possibly May 2020)

Meeting cadence:

- *Sub-teams (including NAA representatives) would meet more frequently*
- *Bi-weekly progress meetings (virtual) with FAA*
- *Full WG meetings (virtual) – monthly or as needed*

Ice Crystal Icing Working Group
Status Report to the
Aviation Rulemaking Advisory Committee

Melissa Bravin
Allan van de Wall
Working Group Co-Chairs

3 February 2020

MEMBERS of ICI WG

Member Name	Organization	Role
Alan Strom	(FAA-ANE Standards) FAA Representative	FAA Representative
Keith Morgan	Pratt & Whitney	ARAC Representative
Melissa Bravin	Boeing Commercial Airplanes	WG Co-Chair – Airplane – P
Allan van de Wall	GE Aviation	WG Co-Chair – Engine – P
Tom Dwier	Textron Aviation	Airplane – P
Pierre-Emmanuel Arnaud	Airbus	Airplane – P
Bryan Lesko	Air Line Pilots Association	Other – P
Rikki Gardonio	Air Line Pilots Association	Other – B
Jon Saint-Jacques	A4A/Atlas Air	Other – P
David Dischinger	Honeywell	Engine – P
Keith Wegehaupt	Honeywell	Engine – P
Jim Loebig	Rolls-Royce	Engine – P
Roberto Marrano	Pratt & Whitney Canada	Engine – P
Shengfang Liao	Pratt & Whitney East Hartford	Engine – P
~~Christopher Baczynski~~	~~Mitsubishi MITAC~~ *(left company)*	~~Airplane – P~~
Kohei Oyabu	Mitsubishi MITAC	Airplane – B
Brian Matheis	UTAS	Other (probe) – P
John Harvell	Rolls-Royce	Engine – P
Roxanne Bochar	Pratt & Whitney	Engine - P

Member Name	Organization	Role
Philip Chow	FAA	Consultant
Jeanne Mason	FAA	Consultant
Walter Strapp	Met Analytics Inc.	Consultant
Dan Fuleki	National Research Council Canada	Consultant
Ashlie Flegel	NASA	Consultant
Tom Ratvasky	NASA	Consultant
Terry Tritz	Boeing	Consultant
Bob Hettman	FAA	Non-voting role
Doug Bryant	FAA	Non-voting role
Eric Duvivier	EASA	Non-voting role
Julien Delanoy	EASA	Non-voting role
Fausto Enokibara	ANAC	Non-voting role
David Johns	TCCA-probes	Non-voting role
Eric Fleurent-Wilson	TCCA-engines	Non-voting role
Masato Fukushi	JCAB	Non-voting role
John Fisher	FAA	Non-voting role
Tom Bond	FAA	Non-voting role

SUMMARY OF TASKING

- The ICIWG will provide advice and recommendations to the ARAC through the TAE Subcommittee on Appendix D to Part 33, and harmonization of §33.68 *Induction System Icing* requirements as follows:
  1. Evaluate recent ICI environment data obtained from both government and industry to determine whether flight testing data supports the existing Appendix D envelope.
  2. Evaluate the results carried out in Task 1 and recommend changes to the existing Appendix D envelope, as required.
  3. Compare available service data on air data probes from both government and industry probes on Appendix D, including any changes proposed in Task 2. Determine whether engine or aircraft data probe responses warrant the use of a different environmental envelope from those proposed in Task 2, or to the existing Appendix D envelope.
  4. Evaluate the results from Task 3 and recommend ICI boundaries relevant to aircraft and engine air data probes. If the working group proposes a different envelope for aircraft and engine air data probes, recommend if these should be included in the existing Appendix D, or create a new appendix to Part 33.
  5. Identify non-harmonized FAA or EASA ICI regulations or guidance. If the working group finds significant differences that impact safety, propose changes to increase harmonization that may also include icing environments other than Appendix D as a secondary objective.
  6. Recommend changes to the Advisory Circular AC20-147a, *Turbojet, Turboprop, Turboshaft and Turbofan Engine Induction System Icing and Ice Ingestion*, based on Task 1 through 5 results.
  7. Assist the FAA in determining the initial qualitative and quantitative costs, and benefits that may result from the working group's recommendations.
  8. Develop a recommendations report containing the results of tasks 1 through 6. The report should document both majority and dissenting positions on the findings, the rationale for each position, and reasons for disagreement.
  9. Under Tasks 1 and 2, examine how compliance with §33.68(e) and §25.1093(b)(1) can be shown to demonstrate that at the airplane level, engine effects that could prevent the continued safe flight and landing of the airplane during encounters in ice crystal icing conditions would be extremely improbable (10^{-9}). If that cannot be shown, recommend changes to the text of §33.68 or §25.1093 (or a combination of both) that would provide the level of safety described by §25.1309(b)(1).

SCHEDULE

- ✓April 30 – May 1 2019 – FAA, Burlington, MA
- ✓July 9-11 2019 – Rolls-Royce, Indianapolis, IN
- ✓November 6-8 2019 – Boeing, Seattle, WA
- ✓January 29-30 2020 – Honeywell, Phoenix, AZ
- April 29 – May 1 2020 – General Electric, Munich, Germany
- September 15-16 2020 – Pratt & Whitney, East Hartford, CT
- December 2-3 – EASA, Cologne, Germany
- February 2021 – Honeywell, Phoenix, AZ
- ARAC membership agreed to timeline extension pending data (see next slides)

STATUS OF TASKING

- Successful meeting at Honeywell 29-31 January 2020
- ARAC Membership Decisions:
  1. FAA proposed new task (9): Under Tasks 1 and 2, examine how compliance with §33.68(e) and §25.1093(b)(1) can be shown to demonstrate that at the airplane level, engine effects that could prevent the continued safe flight and landing of the airplane during encounters in ice crystal icing conditions would be extremely improbable (10^{-9}). If that cannot be shown, recommend changes to the text of §33.68 or §25.1093 (or a combination of both) that would provide the level of safety described by §25.1309(b)(1)
  2. Incorporate TWC data from an upcoming FAA high aerosol flight campaign. In-situ data may show an increase in TWC for high aerosol environments, vs. the current HAIC-HIWC dataset.
  3. Extend timeline of ARAC to allow incorporation of high aerosol flight campaign data into environmental definition.
  4. Initial decrement to maximum TWC threshold using adiabatic model matched to Method 2 -40°C point, using a decrement value of 0.427 to align with HAIC-HIWC dataset.
  5. Extrapolate maximum TWC threshold using adiabatic model and preliminary decrement (0.427) to -90 C due to minimum measured temperature levels reaching tropopause in warm tropical environments.
- Future Agenda Topics:
  1. Investigating in-service engine and probe ICI events to evaluate altitude-temperature envelope boundaries.
  2. Discuss TWC threshold difference between FAA & EASA

AREAS of ARAC CONSIDERATION

- None

Avionic Systems Harmonization Working Group
Status Report to the
Aviation Rulemaking Advisory Committee

Clark Badie

Working Group Chair

January 2020

ASHWG Task

Task:

Identify and develop recommendations on low energy alerting requirements to supplement previous work

Background:

ASHWG previously tasked to develop standards and guidance material for low speed alerting systems, that may complement existing low speed alerting requirements.

Update:

As a result of the Asiana Flight 214 accident, NTSB recommended to the FAA to “develop design requirements for context-dependent low energy alerting systems for airplanes engaged in commercial operations” (NTSB Safety Recommendation A–14–043)

https://www.ntsb.gov/_layouts/ntsb.recsearch/Recommendation.aspx?Rec=A-14-043

ASHWG Task

- Task Deliverable: Provide advice and recommendations to the ARAC through the TAE Committee in a report that addresses the following questions relative to new airplane designs, along with rationale.
    1. Do you recommend any changes to the existing low speed alerting requirements to provide additional pilot reaction time in cases where the airplane is both slow and close to the ground?
    2. Do you recommend any new or revised guidance material to define an acceptable low energy alert?
    3. After reviewing airworthiness, safety, cost, and other relevant factors, including recent certification and fleet experience, are there any additional considerations that the FAA should take into account regarding avoidance of low energy conditions?
    4. Is coordination necessary with other harmonization working groups (e.g., Human Factors, FlightTest)? If yes, coordinate with that working group and report on that coordination.
    5. Develop a report containing recommendations on the findings and results of the tasks explained above.
        a. The recommendation report should document both majority and dissenting positions on the findings and the rationale for each position.
        b. Any disagreements should be documented, including the rationale for each position and the reasons for the disagreement.

ASHWG Summary

- Status:
- Meeting held 19 – 21 November 2019: Draft report completed
- FTHWG meeting reviewed draft report (December 2019)
  - Feedback received end January and being reviewed/dispositioned – will drive one more iteration in work
  - Key point is that ‘protections’ from low airspeed should also be acceptable
- Bi-weekly telecons January – March 2020
- Meeting scheduled April 28 - 30, 2020
- Update based on FTHWG feedback, distribute to TAE

Actions From November 2019 Meeting Addressed

Team continued to refine draft report

- Proposed change to 14 CFR 25.1303(c), Flight and Navigation Instruments
  - Add sub paragraph (3), to provide low airspeed (energy) alerting to the flight crew during the approach phase of flight
- Proposed change to AC 25-7D, paragraph 32.2 (Flight and Navigation Instruments—§ 25.1303.)
  - Guidance for compliance/design
  - Guidance for evaluation/procedures
- List of additional considerations
  - Potential to address unstable approaches
  - Other future considerations for AC 25-7D
  - Alerting in all phases of flight
  - Primer on alerting timeline

Current Roster

Joe Jacobsen	**FAA**	Joe.Jacobsen@faa.gov
Bob Myers	Boeing	Robert.j.myers@boeing.com
Dave Leopold	Boeing	David.D.Leopold@boeing.com
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Bob Stoney	FAA	Robert.stoney@faa.gov
Clark Badie	**Honeywell**	Clark.badie@Honeywell.com

AREAS of ARAC CONSIDERATION

- None

Flightdeck Secondary Barrier Working Group Recommendation Report to Aviation Rulemaking Advisory Committee

Bradley Brown
Wolfgang Koch
Working Group Co-Chairs

March 19, 2020

Members of Flightdeck Secondary Barrier Working Group

Member	Organization
Bill Cason	CAPA
Bill Petrak	FAA
Brad Brown (Co-chair)	Southwest Airlines
Brad Christensen	Safran Cabin
Cari Smith Allen	Alaska Airlines
Cesar Alberto	Embraer
Daniella Constantin	DeHavilland
Doug Lavin	IATA
Drew Jacoby Lemos	RAA
Ed Folsom	RTCA SC-221
Gary Cason	SWAPA
Gary Tomasulo	American Airlines
George Paul	NACA

Member	Organization
Jeff Gardlin	FAA
John Black	AFA
John Weigand	United Airlines
Kevin Woodward	Boeing
Leslie Riegle	AIA
Lowell Dimoff	TSA (FAMS)
Luize Avrigeanu	MITAC
Marie-Laure Moulard	Airbus
Paul McGraw	A4A
Rose Tancredi	TSA (FAMS)
Wolfgang Koch (Co-chair)	ALPA
Zhang Zhuguo	CAAC Shanghai Aircraft Cert Center

SUMMARY OF TASKING

The Working Group was tasked with making recommendations on the following:

1. Identifying a full range of options to achieve the objectives of section 336 of P.L. 115-254 with key considerations to implement each option. This activity should include but not be limited to a review of existing secondary barrier methods.
2. Determining if the FAA's order should apply to airplanes produced for operations under parts in addition to 14 CFR part 121 (for example 14 CFR 129).
3. Providing initial qualitative and quantitative costs and benefits for recommended actions and alternative actions.
4. Providing implementation steps for the recommended options.
5. Developing a report containing recommendations on the findings and results of the tasks explained above.
    a. The recommendation report should document both majority and, if applicable, any dissenting positions on the findings and the rationale for each position.
    b. The recommendation report should document any disagreements, including the rationale for each position and the reasons for the disagreement.

SCHEDULE

- September 5, 2019 — Working Group formed
- October 3, 2019 — Initial Teleconference of the Working Group
- November 4, 2019 — Sub-working Groups formed & Sub-working Group Leads/members notified
- November 4-12, 2019 — Sub-working Group activities lead by the sub-working group leads
- November 13-14, 2019 — First face-to-face meeting (Washington, D.C.)
- November 29, 2019 — Teleconference with FAA Office of Budget Costing
- December 20, 2019 — Report writing subgroups provide first draft
- January 21-23, 2020 — Second face-to-face meeting to review draft report (Tysons, VA)
- January 31, 2020 — All recommendations formalized
- February 20, 2020 — Final report submitted for TAE comment
- February 25, 2020 — TAE call for review draft of final report
- February 27, 2020 — Final report with TAE comments incorporated submitted
- March 19, 2020 — Present final report to ARAC

RECOMMENDATIONS FROM TASKING

1. Identifying a full range of options to achieve the objectives of section 336 of P.L. 115-254 with key considerations to implement each option. This activity should include but not be limited to a review of existing secondary barrier methods.

The final report contains 21 recommendations in which the working group provides a full range of options for the FAA to consider while drafting the new rule. Recommendation 19, 20 and 21 offer two proposals with methods specific to review of existing methods and procedures, minimum staffing requirements for a SBS and timeliness of implementation deadlines.

RECOMMENDATIONS FROM TASKING

2. Determining if the FAA's order should apply to airplanes produced for operations under parts in addition to 14 CFR part 121 (for example 14 CFR 129).

The working group did not recommend extending applicability of the new rule to any airplanes operating under parts other than 14 CFR 121. The final report contains Recommendation 13 in which the working group provides the specific recommendation that 14 CFR 129 aircraft should be excluded from the new regulation. Rationale for this recommendation can be found in Appendix A of the final report.

RECOMMENDATIONS FROM TASKING

3. Providing initial qualitative and quantitative costs and benefits for recommended actions and alternative actions.

The final report contains Section 4.3 Cost and Benefit Analysis.

RECOMMENDATIONS FROM TASKING

4. Providing implementation steps for the recommended options.

The final report contains Section 4.4 Implementation Steps for Recommended Options which includes:

- Adopt a new section or new sections of 14 CFR 25 to ensure there are clear airworthiness standards of new transport category airplanes that are manufactured for delivery to a passenger air carrier in the United States operating under 14 CFR 121.
- Address any existing sections of 14 CFR 25 to ensure harmony with the new and existing regulations.
- Adopt a new section or new sections of 14 CFR 121 to ensure clear operating requirements for new transport category airplanes in which a secondary cockpit barrier was delivered to a passenger air carrier in the United States operating under 14 CFR 121.
- Address any existing sections of 14 CFR 121 to ensure harmony with the new and existing regulations.
- Publish Advisory Circulars as guidance to manufacturers and air carriers describing acceptable means, but not the only means, to comply with the new regulations.

RECOMMENDATIONS

The following are recommendations from the Flightdeck Secondary Barrier Working Group.

- Recommendations 1, 3 – 14 and 16 – 18 had consensus from the working group members.
- Recommendations 2 and 15 had a majority of general consensus from the working group with dissent(s).
- Recommendations 19, 20 and 21 did not have consensus amongst the working group members. Each recommendation had two proposals with the working group members endorsing one or the other.

Rationale for each recommendation is found in Appendix A of the Recommendation Report to Aviation Rulemaking Advisory Committee for Implementation of Section 336 of P.L. 115-254 report.

RECOMMENDATIONS

Recommendation 1

Installed Physical Secondary Barrier (IPSB) should be certified to static load rather than dynamic load requirements.

Proposed Requirement:

- 600 lb push load; 250 lb pull load (same as 14 CFR 25.795(a)(2) for flight deck door)
- Point load(s) applied at the following location(s):
  - Barrier center plus barrier latch area (similar to the existing FAA AC 25.795-1A), or
  - critical assessment of where a barrier design weakness could best be exploited for quick opening

RECOMMENDATIONS

Recommendation 2

IPSB should be designed such that it is not possible for a 50% male to reach through and grab an open flight deck door with consideration to prevent being able to climb and reach over the IPSB to grab the flight deck door.

Note: In the event that the manufacturer designs an IPSB in which a 50% male can reach through and grab an open flight deck door, it will be necessary for the operator to have approved procedures which will further inhibit a perpetrator from grabbing this door, holding it open, and fully penetrating the IPSB before the FA/Pilots could shut the flight deck door.

DISSENT

Dissent to Recommendation 2

AFA agrees with the stated goal of Recommendation #2 that the “IPSB should be designed such that it is not possible for a 50% male to reach through and grab an open flight deck door with consideration to prevent being able to climb and reach over the IPSB to grab the flight deck door." However, the “Note” in this recommendation is broadly worded so that it appears to accept procedures to substitute for achievement of the design goal. Such procedures identified in the recommendation’s rationale, in addition to effective training against attacks, should be required even when the design goal is met, in the event that an attacker below the equivalent physical dimensions of a 50% male reaches through the IPSB. Reach through of the IPSB by those of dimensions at or greater than a 50% male should be prevented by design as stated in the recommendation. If, despite good faith efforts, a manufacturer fails to meet this design standard, then the FAA, might reject the design or consider what additional design conditions would need to be met in order to mitigate the deficiencies of a design that does not prevent reach through of the IPSB by a 50% male.

RECOMMENDATIONS

Recommendation 3

IPSB shall be transparent such that situational awareness can be maintained between the passenger cabin and the vestibule area. The transparency could be accomplished via a transparent material or open space in the IPSB. If a transparent material, consideration should be given to allow materials to not adversely impact the ballistic effects from FAMS protection. Consideration should also be given to maximize the transparency to non-transparent material ratio to maximize the visibility and to enhance situational awareness.

RECOMMENDATIONS

Recommendation 4

Flight deck door jamming requirements of 14 CFR 25.772 are not applicable to IPSB.

Recommendation 5

Pressurized compartment loads are only applicable to IPSB in open/stowed position.

Recommendation 6

Design of the IPSB will take into consideration Human Factors for space required for crew activities (e.g. crew change outs, restroom breaks, meal service, etc.).

RECOMMENDATIONS

Recommendation 7

Operating instructions will not be placarded to the IPSB. If required, placarding should be kept to the minimum (e.g. crew use only, stow while not in use, etc.).

Recommendation 8

Overriding (without tools) of the IPSB should not be obvious, but should be compatible to allow emergency access (e.g. emergency equipment access, air marshal intervention, etc.) and not in contrary to verification method of compliance (e.g. 5 second delay).

RECOMMENDATIONS

Recommendation 9

Part 121 requirement/advisory material limiting the closing/deploying of IPSB to promptly prior to and after the transition period of flight deck door opening. IPSB to be open/stowed during Taxi, Takeoff and Landing (TT&L) and the majority of flight thus allowing compliance methods to assume IPSB is generally in open/stowed position.

Recommendation 10

Regulatory guidance will be provided to clarify any conflicts with existing regulations while IPSB is closed/deployed. This includes, but is not limited to guidance on rapid decompression, emergency evacuation, width of aisle, accessibility to the emergency equipment (14 CFR 25.365, 25.803, 25.813, 25.815, 25.1411 and 25.1447)

RECOMMENDATIONS

Recommendation 11

Training for operation of Secondary Barrier System (SBS) to be scaled to meet operational requirements of various designs. Non-prescriptive examples of procedures found in Appendix B of this report.

Recommendation 12

Crew training applicable to the SBS will include human factors and defensive tactics commensurate to the type of SBS being employed on each type of aircraft.

Recommendation 13

Part 129 aircraft excluded from new regulation.

RECOMMENDATIONS

Recommendation 14

All cargo carriers excluded from regulation due to not being passenger aircraft. While all WG members agreed cargo aircraft are out of scope, some WG members encourage all-cargo airlines to study the work product and conclusions from this group as possible additional layer of security.

RECOMMENDATIONS

Recommendation 15

Limit(s) to rule applicability should be established taking into consideration the following:

- Flight duration / stage length
- Location of lavatory on aircraft as related to operational complexities
- Potential loss of passenger seats due to IPSB design
- Necessary flight attendant staffing for IPSB operation
- Operational complexities
- Minimum dimension requirements
- Etc.

DISSENTS

Dissents to Recommendation 15

CAPA: While the bullets listed in this recommendation accurately capture the broad range of topics discussed which may impact applicability, no agreement was reached on what, if any, limits should be applied. Therefore, we object to the directive nature of this recommendation which could be interpreted as a mandate from the committee. The FAA may or may not take into consideration one or more of these factors (or other factors not listed) when assessing scope.

DISSENTS

Dissents to Recommendation 15

AFA: While the bullets listed in this recommendation accurately captures the broad range of topics discussed which may impact applicability, no agreement was reached on what, if any, limits should be applied. Therefore, we object to the directive nature of this recommendation which could be interpreted as a mandate from the committee. The FAA may or may not take into consideration one or more of these factors (or other factors not listed) when assessing scope.

DISSENTS

Dissents to Recommendation 15

SWAPA: The bullets listed in this recommendation do capture the topics discussed in the working group. However, the working group's many discussions on this topic focused specifically on single flight attendant, and some smaller two-flight attendant aircraft only for possible applicability exceptions. Ultimately the working group could not come up with any rationale that would support exceptions. We therefore object to the open-ended wording of this recommendation as it could lead FAA decisions on applicability to include any variety of aircraft types and sizes.

RECOMMENDATIONS

Recommendation 16

Deferral of IPSB must be evaluated by Aircraft Evaluation Group (AEG) similar to any Minimum Equipment List (MEL) items. Deferral should be Category C (10 days).

Recommendation 17

In the case of the IPSB deferral, secondary or tertiary procedures in place will comply with performance standards outlined in current 121 regulations (e.g. 121.584, etc.).

Recommendation 18

Simplified 5 second delay verification method for the IPSB design compliance. The aspect of this recommendation specifically addresses the reasoning why 5 seconds is adequate and the 5 seconds does not need to be increased to a longer duration.

RECOMMENDATIONS

Recommendation 19 – Review of Existing Methods and Procedures

- Proposal 1 recommends Air Carriers and the FAA conduct a fresh Safety Risk Assessment of current Secondary Barrier Systems (SBS) in use (IPSB, INSB or Human Barrier) with demonstrated compliance to the performance goals from AC 12o-110 and RTCA DO-329. The large majority of the Operations sub-working Group advocated for this proposal.
- Proposal 2 recommends that Air Carriers should continually evaluate existing secondary barrier methods through the use of 14 CFR Part 5 Safety Management Systems. All members of the Implementation sub-working group, half of the Technical sub-working group and a small minority of the Operations sub-working group advocated for this proposal.

Note: Half of the Technical team members abstained from advocating for either proposal.

RECOMMENDATIONS

Recommendation 20 – Required Flight Attendant Staffing Levels

- Proposal 1 of Recommendation 20 recommends that in order to be fully effective in operation, the IPSB requires two flight attendants onboard the aircraft. The large majority of the Operations sub-working Group advocated for this proposal.
- Proposal 2 of Recommendation 20 recommends that effectiveness of the IPSB should be based on procedure development and implementation. All members of the Implementation sub-working group, the large majority of the Technical sub-working group and a small minority of the Operations sub-working group advocated for this proposal.

Note: A small minority of the Technical sub-working group abstained from advocating for either proposal

RECOMMENDATIONS

Recommendation 21 – Implementation Timeline for the New Rule

- Proposal 1 of Recommendation 21 recommends that an implementation timeline of the secondary barrier should be issued no later than 36 months after the final rule is published in the Federal Register and relevant advisory circulars issued by the FAA. All members of the Implementation and Technical sub-working groups and a small minority of the Operations sub-working group advocated for this proposal.
- Proposal 2 of Recommendation 21 recommends that an implementation timeline of the secondary barrier should be issued no later than 18 months after the final rule is published in the Federal Register. The large majority of the Operations sub-working Group advocated for this proposal.

Aviation Rulemaking Advisory Committee Task Notice
(ADD ANNOUNCEMENT DATE)

ACTION: Notice of a new task assignment for the Aviation Rulemaking Advisory Committee (ARAC) and solicitation of members.

SUMMARY: The FAA assigned ARAC a new task to provide recommendations for standardized curricula for air carrier and operator training provided by part 142 training centers, as recommended by the Air Carrier Training Aviation Rulemaking Committee (ACT ARC). This notice informs the public of the new ARAC activity and solicits membership for the new Training Standardization Working Group.

BACKGROUND: ARAC is governed by the Federal Advisory Committee Act (5 U.S.C., Appendix 2). The FAA established the ARAC to provide information, advice, and recommendations on aviation related issues that could result in rulemaking to the FAA Administrator, through the Associate Administrator of Aviation Safety.

The FAA established the Air Carrier Training Aviation Rulemaking Committee (ACT ARC), separate from ARAC, to provide a forum for the U.S. aviation community to discuss, prioritize, and provide recommendations to the FAA about operations conducted under parts 121, 135, and 142, specifically addressing air carrier training. The ACT ARC produced several recommendations it believed would achieve standardization (where appropriate) and significant administrative efficiency in check pilot qualification, flight instructor qualification, and part 135 air carrier training curricula delivered by part 142 training centers.[1] The ACT ARC recommended the FAA establish a Standardized Curriculum Concept for part 135 training provided by part 142 training centers.

The Standardized Curriculum Concept provides a means to standardize curricula offered by part 142 training centers to part 135 operators. Under the Standardized Curriculum Concept, the Training Standardization Working Group will use formalized stakeholder input to develop and recommend to the ARAC standardized curricula for each aircraft fleet. The ARAC will recommend to the FAA, standardized curricula for each aircraft fleet. The FAA will review the recommendations and, if acceptable, the FAA will make draft standardized curricula available for public comment through published notices in the Federal Register. The FAA may task the ARAC, through the Training Standardization Working Group, to use the public comments to refine its recommendations to ARAC. The FAA will review the recommendations and, if acceptable, publish the standardized curricula at a national level.

[1] The ACT ARC Recommendations are publically available on the FAA Web site at: https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs200/afs280/act_arc/

Standardized curricula would provide a common method for quality training accessible to any operator that obtains approval to use the curriculum in its FAA-approved training program. The Standardized Curriculum Concept aims to provide an efficient means for approving training curricula offered by part 142 training centers while increasing the consistency of training, testing, and checking delivered to part 135 operators. The Standardized Curriculum Concept supports the overarching goals to enhance training and checking and promote safer operational practices in part 135 operations. This supports the National Transportation Safety Board Most Wanted List initiative to improve the safety of part 135 flight operations.

On (DATE), the FAA assigned this task to ARAC, which ARAC designated to the Training Standardization Working Group. Participants of the newly established Training Standardization Working Group will serve as members of the group only, reporting to ARAC. The group will provide advice and recommendations on the assigned task. The group will submit the recommendation report to ARAC for consideration. ARAC must deliberate and discuss the report prior to voting on whether to submit the recommendation report to the FAA.

THE TASK: The Training Standardization Working Group will provide advice and recommendations to the ARAC on the most effective ways to standardize curricula provided by training centers. The group is tasked with the following:

1. Recommend a detailed master schedule for the development of standardized curricula for each aircraft or series of aircraft;
2. Develop and recommend a standardized curriculum to qualify training center instructors and evaluators (check pilots) to provide part 135 training, testing, and checking;
3. Develop and recommend standardized curricula for each aircraft or series of aircraft, including the maneuvers, procedures, and functions to be performed during training and checking;
4. Recommend continuous improvements to each standardized curriculum for a specific aircraft or series of aircraft; and
5. Develop reports containing recommendations for standardized curricula and results of the tasks listed here. The group should review any relevant materials to assist in achieving their objective, including FAA Advisory Circular 142-SCC, Standardized Curricula Delivered by Part 142 Training Centers.

SCHEDULE: This tasking notice requires the following recommendation reports.

- The initial recommendation report including the proposed master schedule for standardized curriculum development must be submitted to the FAA for review and acceptance no later than six months from the first meeting of the Training Standardization Working Group.
- The addendum recommendation report, including a standardized curriculum to qualify training center instructors and check pilots to provide part 135 training, testing, and checking must be submitted to the FAA for review and acceptance no later than six months from the submission of the master schedule;

- The addendum recommendation reports, including proposed standardized curricula for each aircraft or series of aircraft, must be submitted to the FAA according to the master schedule;
- The Training Standardization Working Group can submit ad hoc recommendation reports, including continuous improvements, to standardized curricula to the FAA for review and acceptance at any time.

WORKING GROUP ACTIVITY: The Training Standardization Working Group must comply with the procedures adopted by the ARAC and as follows:

1. Conduct a review and analysis of the assigned tasks and any other related materials or documents.
2. Draft and submit a work plan for completion of the task, including the rationale supporting such a plan, for consideration by the ARAC.
3. Provide a status report at each ARAC meeting.
4. Draft and submit the recommendation report based on the review and analysis of the assigned tasks.
5. Present the recommendation report at the ARAC meeting.

PARTICIPATION IN THE WORKING GROUP: The Training Standardization Working Group will be comprised of technical experts having an interest in the assigned task. A group member need not be a member representative of ARAC. The FAA would like a wide range of stakeholders to ensure all aspects of the tasks are considered in development of the recommendations.

The provisions of the August 13, 2014, Office of Management and Budget guidance, "Revised Guidance on Appointment of Lobbyists to Federal Advisory Committees, Boards, and Commissions" (79 FR 47482), continues the ban on registered lobbyists participating on Agency Boards and Commissions if participating in their "individual capacity." The revised guidance now allows registered lobbyists to participate on Agency Boards and Commissions in a "representative capacity" for the "express purpose of providing a committee with the views of a nongovernmental entity, a recognizable group of persons or nongovernmental entities (an industry, sector, labor unions, or environmental groups, etc.) or state or local government." (For further information see Lobbying Disclosure Act of 1995 (LDA) as amended, 2 U.S.C 1603, 1604, and 1605.)

NOMINATION PROCESS: Candidates are required to submit, in full, the following materials to be considered for membership. Failure to submit the required information may disqualify a candidate from the review process.

1. A résumé or curriculum vitae, detailing any aircraft-specific knowledge and experience.
2. A statement describing the specific expertise and contribution the candidate would bring to the task described above.

3. A statement describing the specific constituencies and stakeholders that the candidate would represent in completing the task described above.

Nominations must be submitted electronically (by E-mail) to NAME at EMAIL. The subject line should state "ARAC Training Standardization Working Group Nomination." The FAA must receive all requests by **[day], [date] at [time Eastern Standard Time]**. The ARAC and the FAA will review the requests and advise you whether or not your request is approved.

Roles and Responsibilities

If you are chosen for membership on the working group, you must actively participate in the working group, attend all meetings, and provide written comments when requested. You must devote the resources necessary to support the working group in meeting any assigned deadlines. You must keep your management and those you may represent advised of group activities and decisions to ensure the proposed technical solutions do not conflict with the position of those you represent. Once the group has begun deliberations, members will not be added or substituted without the approval of the ARAC Chair, the FAA, including the Designated Federal Officer, and the Group Chair.

Confidential Information

All final work products submitted to the ARAC are public documents. Therefore, it should not contain any nonpublic proprietary, privileged, business, commercial, and other sensitive information (collectively, Confidential Information) that the working group members would not want to be publicly available. With respect to working groups, there may be instances where members will share Commercial Information within the working group for purposes of completing an assigned tasked. Members must not disclose to any third party, or use for any purposes other than the assigned task, any and all Confidential Information disclosed to one party by the other party, without the prior written consent of the party whose Confidential information is being disclosed. All parties must treat the Confidential Information of the disclosing party as it would treat its own Confidential Information, but in no event shall it use less than a reasonable degree of care. If any Confidential Information is shared with the FAA representative on a working and/or task groups, it must be properly marked in accordance with the Office of Rulemaking Committee Manual, ARM-001-15.

The Secretary of Transportation determined the formation and use of the ARAC is necessary and in the public interest in connection with the performance of duties imposed on the FAA by law.

ARAC meetings are open to the public. However, working group meetings are not open to the public, except to the extent individuals with an interest and expertise are selected to participate. The FAA will make no public announcement of working group meetings.

FOR FURTHER INFORMATION CONTACT: Name, Federal Aviation Administration, Address; Telephone (XXX) XXX-XXXX; email.