



AVIATION RULEMAKING ADVISORY COMMITTEE (ARAC) MEETING

September 10, 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 of Sport Pilot and Recreational Pilot certificates and all additional remaining category and class pilot certificates and ratings (Present Recommendation Report to ARAC: 12/2021)
 - ❖ Interim Recommendation Report – Risk Management Handbook - Draft, Recommendations and Suggestions; new Airman Certification Standards for Powered-Lift Instrument Instructor and Private Pilot – Airship
 - Part 145 Working Group – Ms. Sarah McLeod
 - ❖ Preliminary Report (Present Preliminary Report to ARAC: 12/10/2020)
 - ❖ Final Report (Present Recommendation Report to ARAC: 12/2021)
 - Designated Pilot Examiner Working Group (Present Recommendation Report to ARAC: 6/2021) – Mr. Sean Elliott
 - Transport Airplane and Engine (TAE) Subcommittee – Mr. Keith Morgan
 - Flight Test Harmonization Working Group – Mr. Brian P. Lee
 - ❖ Topic 16 Handling Qualities Rating Method (HQRN) (Present Recommendation Report to ARAC: TBD)
 - Transport Airplane Metallic and Composite Structures Working Group – Mr. Doug Jury
 - ❖ Repeat Inspections and Crack Interaction (Present Recommendation Report to ARAC:3/2021)
-

- ❖ Structural Damage Capability for Single Load Path Structure (Present Recommendation Report to ARAC: 12/10/2020)
- ❖ Structural Bonding and “Weak Bonds” (Present Recommendation Report to ARAC: 12/10/2020)
- Avionics System Harmonization Working Group (Present Recommendation Report to ARAC: 12/10/2020) – Mr. Clark Badie
- Ice Crystals Icing Working Group (Present Recommendation Report to ARAC: 12/2021) – Ms. Melissa Bravin and Mr. Allan van de Wall
- Engine Harmonization Working Group (Present Response to FAA Inquiry to ARAC: March 2021)
- Any Other Business
 - Update on the ARAC Training Standardization Working Group
 - 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: June 18, 2020

MEETING TIME: 1:00 PM EST

LOCATION: Please note the Aviation Rulemaking Advisory Committee (ARAC) held a “**virtual**” **meeting only**. Participants received the log-in details prior to the meeting.

PUBLIC

ANNOUNCEMENT: The Federal Aviation Administration (FAA) provided notice to the public of this ARAC meeting in a *Federal Register* notice published on June 4, 2020 (85 FR 34485).

ATTENDEES: **Committee Members**

Yvette A. Rose	Cargo Airline Association (CAA) <i>ARAC Chair</i>
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)
Gail Dunham	National Air Disaster Alliance Foundation (NADAF)
Stéphane Flori	Aerospace & Defense Industries Association of Europe (ASD)
Daniel Friedenzohn	Embry Riddle Aeronautical University (ERAU)
Paul Hudson	FlyersRights.org
Randy Kenagy	Air Line Pilots Association (ALPA)
Sarah Macleod	Aeronautic Repair Station Association (ARSA)
Chris Martino	Helicopter Association International (HAI)
Paul McGraw	Airlines for America (A4A)

Keith Morgan	Pratt & Whitney, Chair of the Transport Aircraft and Engine (TAE) Subcommittee
Ric Peri	Aircraft Electronics Association (AEA)
Leslie Riegler	Aerospace Industries Association (AIA)
Larry Rooney	Coalition of Airline Pilots Association (CAPA)
Steven Udvar-Hazy	Aviation Capital Group
Bill Whyte	Regional Airline Association (RAA)
Christopher Witkowski	Association of Flight Attendants (AFA)
Attendees	
Justin Barkowski	American Association of Airport Executives (AAAE)
Julie Boatman	Flying
Joel Brouhle	The Boeing Company
Melissa Bravin	The Boeing Company
Julie Brightwell	The Boeing Company
Christopher Cooper	Aircraft Owners and Pilots Association (AOPA)
Jose Coutinho	Civil Aviation National Agency (ANAC) Brazil
Mike Deer	Bell Flight
Maryanne DeMarco	Coalition of Airline Pilots Association (CAPA)
Sean Elliott	Experimental Aircraft Association (EAA)
Andrew Feghali	Aeroblaze Laboratory
Rich Funcheon	Florida Institute of Technology (F.I.T.) Aviation, LLC.

Stephen Gatlin	L3 Harris Commercial Training Services,
Dean Griffith	Jones Day
Paulo Henrique	Embraer Commercial Aviation
Doug Jury	Delta Air Lines
Brian Koester	National Business Aviation Association (NBAA)
Brian Lee	The Boeing Company
John Lee	Spirit AeroSystems, Inc.
David Oord	Lilium, Airman Certification Systems Working Group Chair
Andrew (Andy) Osantowski	Robotic Skies
Mike Tennant	FlightSafety International
John Whalen	Hamilton Sundstrand
FAA	
Marcia Alexander-Adams	Office of Communications
Nicole Bartolucci	Office of Aviation Policy and Planning
Kathleen Bradshaw	Aircraft Certification Service
Rob Burke	Flight Standards Service
Elouise Castillo	Office of Aviation Policy and Planning
Jimeca Callahan	Office of Rulemaking (Summer Intern)

Thuy Cooper	Office of Rulemaking
Jim Crotty	Office of Rulemaking
Quentin Flinn	Office of Rulemaking
Brent Hart	Office of Rulemaking
Daniel Leach	Office of Aviation Policy and Planning
Nellie Lew	Office of Aviation Policy and Planning
Trey McClure	Flight Standards Service
Natalie Mitchell-Funderburk	Office of Rulemaking
Lakisha Pearson	Office of Rulemaking
Brandon Roberts	Office of Rulemaking <i>Designated Federal Officer (DFO)</i>
Puja Sardana	The Regulatory Group/FAA
William Schinstock	Aircraft Certification Service
Mary Schooley	Aircraft Certification Service
Paul Siegmund	Aircraft Certification Service
Giles Strickler	Office of Rulemaking
Alan Strom	Aircraft Certification Service
George Thurston	Office of Aviation Policy and Planning
Brian Zane	Office of Rulemaking

Welcome and Introduction

Ms. Yvette Rose, ARAC Chair, called the meeting to order at 1:02 p.m. Ms. Rose asked Mr. Brandon Roberts, Designated Federal Officer (DFO), to review features of Zoom, the teleconference platform used for the virtual meeting. Mr. Roberts informed participants

that the meeting was being recorded. Mr. Roberts reviewed features of Zoom and asked that participants who dialed-in using a phone number to identify themselves through Zoom or email the ARAC (9-AWA-ARAC@faa.gov) to record their attendance. Mr. Roberts noted that the Federal Advisory Committee Act (FACA) rules will apply, and speakers will be recognized by Ms. Rose.

Ms. Rose confirmed attendance of ARAC members based on the participant list provided by Zoom. Ms. Rose requested other attendees and FAA staff to email their names to the ARAC email address to have their attendance recorded.

Mr. Roberts read the required 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 the ARAC with the permission of the Chair.

Ratification of Minutes

Ms. Rose asked for a motion to accept the minutes from the March 19, 2020, ARAC meeting. Mr. Keith Morgan motioned to accept the minutes, and Mr. Chris Martino seconded the motion. ARAC voted to ratify the minutes with no objections.

Status Reports

A copy of the June meeting packet, which includes the presentations may be found at: https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ARAC%20June%202020%20Meeting%20Packet.pdf.

Airman Certification Systems Working Group (ACSWG)

Ms. Rose asked Mr. David Oord, ACSWG Chair, to provide the working group's status report and to present the interim recommendation report. Mr. Oord's status report included an overview of membership, a summary of tasking, a review of the schedule, the status of tasking, and areas for ARAC consideration.

Mr. Oord reviewed the schedule, which included an interim report submitted in June 2018 and previously approved by the FAA. He stated that the working group plans to have the final report completed by December 1, 2021. Mr. Oord noted that a March 2020 working group meeting was cancelled due to COVID-19. He stated that the group has a virtual meeting scheduled for June 23, 2020, and that it will plan another meeting in September 2020.

Ms. Rose asked if there were any questions or discussion regarding the interim report. Ms. Rose motioned to accept the report, and Mr. Chris Martino seconded the motion. Mr. Walter Derosier asked for clarification on which document ARAC was voting on and which would go out for public comment. Ms. Rose clarified that ARAC was voting to accept the interim report, including the handbook and all the standards. ARAC voted to accept the interim report.

Part 145 Working Group

Ms. Rose asked Ms. Sarah MacLeod, the Part 145 Working Group Chair, to provide the working group's status report. The status report included an overview of membership, a summary of tasking, a review of the schedule, the status of tasking, and areas for ARAC consideration. Ms. MacLeod noted that membership had not changed substantially.

Ms. MacLeod stated that Mr. Ric Peri is working on the comprehensive review of internal and external guidance material and that she is working on the second phase, which will include advisory materials for the FAA to consider.

Designated Pilot Examiners Working Group (DPEWG)

Ms. Rose asked Mr. Sean Elliott, the DPEWG Chair, to provide the working group's status report. The status report included an overview of membership, a summary of tasking, a review of the schedule, the status of tasking, and areas for ARAC consideration. Mr. Elliott noted that the group has been able to make good progress on all fronts.

Mr. Elliott reviewed the schedule, which included a 3-day in-person meeting in October 2019. He stated he anticipates the group will need two final face-to-face meetings to complete the status of tasking.

Mr. Elliot noted that the working group met on June 24, 2020, to review the progress of the subgroup's recommendations and develop the next steps for refinement. He noted that virtual meetings will continue until state and national guidance allows travel and group gathering. He also stated that the working group submitted the work plan along with the status report.

Mr. Elliott proposed two areas for ARAC consideration. The working group requested an additional 6-month time frame extension and approval for the working group to host its two final in-person meetings outside of the Washington, DC area. Steven Udvar-Hazy moved to accept both motions, and Mr. Walter Derosier seconded the motion. ARAC voted in favor to accept the extension and the change of meeting location.

Transport Aircraft and Engine (TAE) Subcommittee

Ms. Rose asked Mr. Keith Morgan, the TAE Subcommittee Chair, to provide the subcommittee status report. Mr. Morgan stated that membership is constant and that the group recently held a virtual meeting (in lieu of a face-to-face because of COVID-19). He reviewed the rest of the schedule, which included a teleconference scheduled in July and

a face-to-face meeting scheduled in October (to stay ahead of the ARAC meeting schedule).

Mr. Morgan 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 Engine Harmonization.

Mr. Morgan noted there is a balance in the schedule of deliverables between the groups.

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, a status of tasking, and areas for ARAC consideration.

Mr. Morgan reviewed current membership. He summarized the schedule and noted that phase 3 should be done by June 18, 2020. He noted that TAE is expecting a formal tasking from the FAA to ARAC for phase 4. Mr. Morgan briefly explained what he anticipates would be the phase 4 and the expected timeline (end of 2021 to September 2022).

Mr. Morgan noted that the only areas of ARAC consideration is for the formal request of phase 4. Ms. Rose stated that FAA would provide the tasking for phase 4.

Transport Airplane Metallic and Composite Structures Working Group (TAMCSWG)

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

Mr. Morgan noted that the recommendation reports for Structural Damage Capability (SDC) for Single Load Path (SLP) Structure and Structural Bonding and "Weak Bonds will be discussed at the TAE meeting in July and submitted for ARAC's consideration at the September 2020 meeting.

Ice Crystals Icing Working Group (ICIWG)

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

Mr. Morgan noted that the group is very active and has telecom meetings every 3 weeks (in lieu of face-to-face due to COVID-19).

Mr. Morgan stated there were no areas for ARAC consideration at this time for this subgroup, and the report is expected at the end of 2021.

Avionics System Harmonization Working Group (ASHWG)

Mr. Morgan provided a brief status update on the ASHWG. He reviewed the summary of tasking and stated that they do not need any help or support from ARAC at this time. He stated its report is expected to be complete by September 2021.

Engine Harmonization Working Group (EHWG)

Mr. Morgan explained that this group is a reinvigoration of the endurance team formed to address additional considerations from the FAA. He stated that approximately half of the team are new members, while the other half were original members of the group.

Mr. Morgan reviewed the schedule, which included weekly meetings and the option to divide the group into subgroups. He stated he expects work to continue into the first quarter of 2021.

Mr. Morgan stated the only area of ARAC consideration is to help get new members approved, but he noted Mr. Alan Strom (FAA) is assisting to get this accomplished.

Ms. Rose stated that Ms. Cooper sent out the clarification request letter from FAA to all ARAC members. She stated that the clarification request is not simple, and it will require more detail than expected.

Recommendation Reports

Flight Test Harmonization Working Group (FTHWG)

Ms. Rose asked Mr. Brian Lee, the FTHWG Chair, to present the FTHWG's recommendation reports.

Mr. Lee presented the recommendation report on Topic 15: Pilot Induced Oscillation (PIO). He summarized the tasking and discussed the recommendations. The FTHWG recommended the following for ARAC's consideration:

- The best approach for showing compliance with regard to PIO/Bio-Dynamic Coupling (BDC) is 2-pronged.
- An evaluation throughout the flight test campaign, in which the airplane is exercised throughout the flight envelope.
- A set of very specific, high demand maneuvers specifically designed to expose PIO tendencies.

- Guidance Material includes new “background” information and highlights industry best practice and lessons learned.

Mr. Lee noted that the report was unanimous with no dissenting opinions, and he formally requested the report be submitted for ARAC consideration.

Ms. Rose asked if the best practices were contained within the group’s recommendation or within advisory circular (AC) language that was also included. Mr. Lee clarified the recommendation was included within the AC. Ms. Rose asked if the working group was recommending any rulemaking changes. Mr. Lee confirmed that they were not. Mr. Paul Hudson asked about the differences in certification standards that led to the recommendations, and Mr. Lee indicated that means of compliance documents are not public, but the group analyzed standards from every major transport category. He noted that although they had the same safety intentions, the issue papers were all different. Mr. Hudson further asked about next steps for the certification standards if approved by the ARAC. Mr. Roberts clarified the process for ARAC recommendation reports. He stated that if the FAA accepted any recommendations that required changes to a policy, those recommendations would go to the applicable office of primary responsibility. If that office decided to proceed with rulemaking, the rulemaking would go through the process of public comments and the FAA would consider public comments when finalizing the rule. Mr. Lee asked what would happen if FAA did not accept the recommendation. Mr. Roberts advised that the ARAC could ask FAA for clarification if it is not accepted.

Mr. Paul McGraw motioned to accept the report, and Mr. Walter Derosier seconded the motion. Ms. Rose asked if there were any objections to accepting the recommendation report, and there were none. The ARAC voted in favor of accepting the report.

Mr. Lee also presented the recommendation report on Topic 31: Definitions of Vdf/Mdf. He summarized the tasking and discussed the recommendations. The FTHWG recommended the following for ARAC’s consideration:

- Harmonization of § 25.335(b)(1) regulation and guidance, including a new (-15 deg) dedicated flight path upset, clarification of means of compliance, and a requirement for non-overridable envelope protection failure conditions.
- Update to AC 25.335-1A, including clarification of necessary conditions for credit of reduced structural design speeds if equipped with non-overridable protection functions, atmospheric variations, and instrument errors and production variations, where applicable.
- Update to § 25.253(b) to establish that VFC/MFC need not exceed the speed achievable with full forward control input for protected airplanes.

- Inclusion of a new regulation § 25.253(d) to precisely define VDF/MDF to be inclusive of the § 25.335 upset and gust conditions and have defined appropriate evaluation maneuvers.
- Amend the regulations and/or guidance for Handling Qualities paragraphs 251, 253, 255, and flutter flight tests of 629(e) to allow disabling or modifying protection functions for flight test purposes. Some quantitative criteria modified to qualitative in line with control law modifications required.
- Modify the quantitative criteria of § 25.255(f) to address protected and unprotected airplanes.
- Revise the regulations and guidance for § 25.1505 to clarify the intent regarding structural speed margins (VC/MC to VD/MD) and speed margins demonstrated in flight (VMO/MMO to VDF/MDF). Criteria for failure conditions are also included.

Ms. Rose asked for clarification regarding the reference to FAA's dissent in the report and suggested the language be edited to be clear that FAA did not have a position in the report. Mr. Lee suggested that the opinion and recommendation of the FAA representative on the working group was important in the success of the report, but he noted that using the word dissent may not have been the best language. Mr. Roberts further noted that FAA cannot have a formal position on the report until it is submitted through the ARAC, so he cautioned using language that would suggest the FAA had a position before the submission. Mr. Lee asked if ARAC would like the working group to edit the recommendation report. Ms. Rose stated that a vote could continue knowing that those changes would be made.

Mr. Randy Kenagy made a motion to accept the report. Ms. MacLeod asked Ms. Rose to amend the motion. Instead of revising the report, Ms. MacLeod suggested adding the clarifying language in the transmittal letter to the FAA, instead of in the report itself. Ms. Rose accepted the amendment and Mr. Morgan seconded the motion. Ms. Rose asked if there were any objections, and there were not. ARAC voted to accept the report.

Mr. Peri suggested that ARAC further discuss how working groups should balance their ability to offer dissensions without redirecting committee work. He asked for a best practice standard on how to approach opinions of the FAA through a representative on the working group without creating a conflict of interest. Mr. Roberts agreed that clarification of the FAA role in working groups could be helpful.

Other Business (Updates and Regulatory Activities)

Ms. Rose asked Mr. Roberts to provide the update on the ARAC Training Standardization Working Group and an update on FAA regulatory activities. Mr. Roberts confirmed that the FAA received the Flight Deck Secondary Barriers recommendation

report on March 20, 2020. He noted that he cannot provide specifics, but encouraged members to look out for the upcoming publication of the Spring Unified Agenda for information on the FAA's rulemaking program. Ms. Cooper posted a link to access the status of the Unified Agenda in the Zoom chat box, and she stated she would email the link to ARAC members.

Mr. Roberts introduced a Department of Transportation policy change regarding Federal advisory committees. Under this new policy, the Secretary must appoint new subcommittee and working group members. This does not apply to current subcommittee or working group members. The appointment process will be the same as that of the parent committee. Also, subcommittees and working group membership terminates after one year unless renewed by the Secretary. The ARAC TAE Subcommittee and all working groups will be up for renewal in June 2021. Finally, the FAA Administrator must approve all new subcommittees and working groups. He noted that this policy became effective on May 27, 2020, and the FAA is in the beginning phases of working out details of the policy.

Mr. Paul Hudson asked if the new policy was available in the Federal Register. Mr. Roberts noted that he does not believe the new policy information is public, and it is an internal DOT policy. He stated that the FAA would share any public announcements with ARAC members. Mr. Derosier asked how the FAA would handle the turnover of subject matter experts in working groups. Mr. Kenagy asked if subject matter experts can participate while awaiting approval, so the working group does not have gaps of time where they are lacking expertise. Mr. Kenagy requested that FAA provide something in writing to help clarify this policy. Mr. Roberts said the discussion of the policy would be documented in the ARAC minutes, but he did not know the timing of any other announcement that would be made. Mr. Roberts noted the concerns and stated that ARM will consider these approval steps in the tasking process.

Mr. Roberts asked Mr. Rob Burke to provide the status update for the Training Standardization Working Group. Mr. Burke noted that the tasking and the request for public nominations (published on the ARAC webpage) has closed.

Mr. Roberts provided an update on FAA regulatory activities, including the Pilot Records Database NPRM (published on March 30, 2020), which has a 90-day comment period closing on June 29, 2020. He mentioned the FAA received multiple requests for an extension of the comment period, but the FAA denied these requests. Mr. Doug Carr expressed his dissatisfaction of the denial since the FAA took 9 years to develop the NPRM, and the public only has 90 days to respond. He noted that he was disappointed, especially considering COVID-19 and everything else going on currently that more time for comments was not given. Mr. Kenagy noted that he agreed with Mr. Carr, and that was the opinion of all ARAC members. Mr. McGraw shared in the disappointment. Ms. Rose echoed the sentiment stating more time was needed to provide thoughtful responses in their comments. She asked if there was any possibility that the FAA would reconsider its decision. Mr. Roberts noted that he would share these concerns within the FAA. While

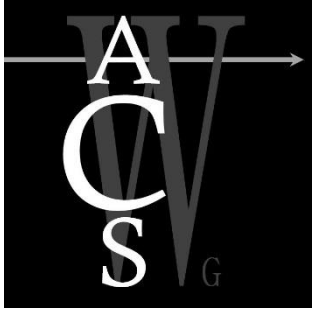
Mr. Roberts did not know if the FAA would reconsider its decision, he noted that there have been cases where the FAA reopened comment periods for past rulemakings.

Mr. Roberts also noted “The Relief for Certain Persons and Operations during the Coronavirus Disease 2019 (COVID-19) Outbreak Final Rule” published on May 4, 2020, with an effective date of April 30, 2020, and runs through March 31, 2021. The rule is posted on regulations.gov (Docket number FAA-2020-0446). He stated that the final rule included various provisions of COVID-19 relief. A member asked if the FAA was considering any extensions for relief. Mr. Roberts noted that parts of the relief only run through June 2020 and that economic and safety provisions are being monitored and evaluated on a case-by-case basis. Mr. Roberts noted that Ms. Cooper provided a link (<https://www.transportation.gov/coronavirus>) to the Department’s COVID relief activities in the Zoom chat box.

Mr. Roberts announced the FAA has initiated the process to renew the ARAC charter, which expires on September 14, 2020.

Adjournment

Ms. Rose concluded that the Zoom meeting went smoothly, and she adjourned the meeting at 3:07 p.m.



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

David Oord
Working Group Chair

August 24, 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
- Final recommendation reports no later than December 1, 2021
 - 18-month charter extension approved at last meeting

SCHEDULE

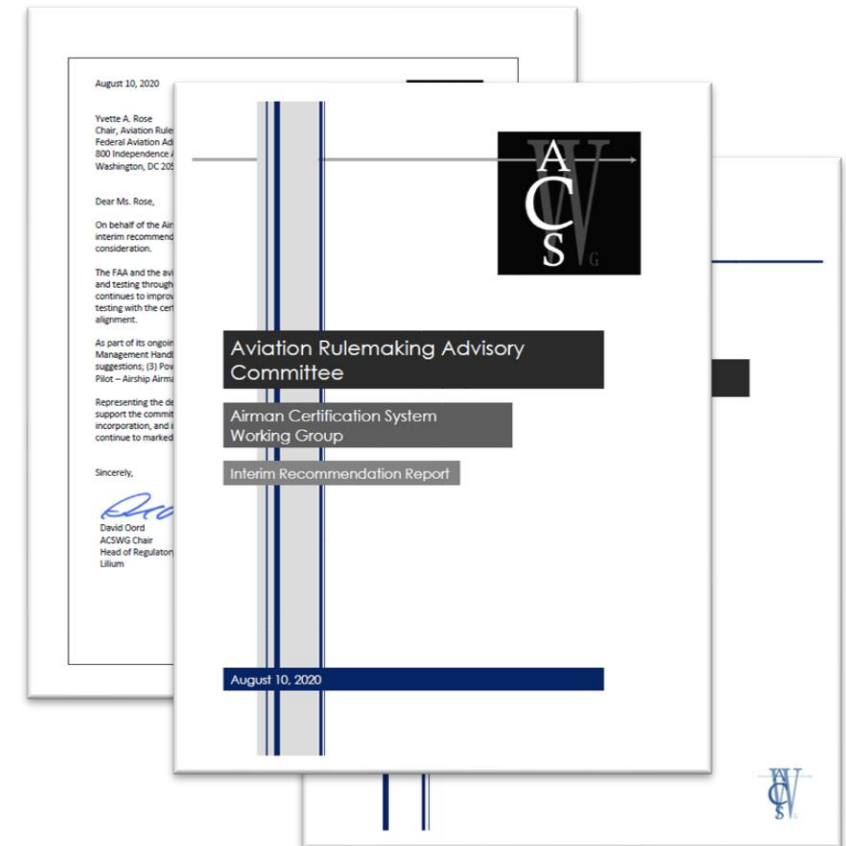
- 2020 Meetings –
 - March 17 & 18 (cancelled)
 - June 23 (virtual meeting)
 - September 22 (virtual meeting)

STATUS OF TASKING

- Continued progress on Standards, Guidance, and Test Management
 - Risk Management Handbook
 - Unmanned Aircraft Systems Operating Handbook
 - Refinement and improvement of existing Standards
 - Change management process
 - New test management service implemented
 - New draft Airman Certification Standards

AREAS of ARAC CONSIDERATION

- **Interim Recommendation Report –**
 - Handbook Recommendation
 - Risk Management Handbook (FAA-H-8083-2)
 - Draft
 - Recommendations and Suggestions
 - Airman Certification Standards (ACS)
 - Instrument Instructor – Powered-Lift
 - Private Pilot - Airship



DPE Reform Working Group Status Report to the Aviation Rulemaking Advisory Committee

Sean Elliott, EAA Vice President
Working Group Chair

August 27th, 2020

MEMBERS/OBSERVERS of DPE Reform Working Group

Jason	Blair	Independent	WG Member
Paul	Cairns	Embry Riddle Aeronautical University	WG Member
Lisa	Campbell	Air-Mods Flight Training Center	WG Member
Chris	Cooper	Aircraft Owners and Pilots Association	WG Member
MaryAnne	DeMarco	Coalition of Airline Pilots Association	WG Observer
Mark	Dilullo	Threshold Technologies, Inc.	WG Member
Jon	Dodd	Coalition of Airline Pilots Association	WG Member
Mark	Ducorsky	Independent	WG Member
Sean	Elliott	Experimental Aircraft Association	WG Chair
Dan	Fluke	Air Line Pilots Association	WG Member
Jonathan	Freye	National Air Transportation Association	WG Member
Stephen	Gatlin	Pan Am Internatioanl Flight Academy	WG Member
Lauren	Haertlein	General Aviation Manufacturers Association	WG Observer
Thom	Holden	Federal Aviation Administration	WG Member
John	Kovar	Federal Aviation Administration	WG Member
Zachary	Noble	Helicopter Association International	WG Member
Randy	Rowles	Helicopter Institute / HAI	WG Member
David	Sullivan	Independent	WG Member
Tim	Tucker	Robinson Helicopter Company	WG Member

Thom	Holden	Federal Aviation Administration	WG Support
Jay	Kitchens	Federal Aviation Administration	WG Support
John	Kovar	Federal Aviation Administration	WG Support
Trey	McClure	Federal Aviation Administration	FAA Lead Support
Susan	Parson	Federal Aviation Administration	WG Support
Robert	Reckert	Federal Aviation Administration	WG Support
Bruce	Rengstorf	Federal Aviation Administration	WG Support
Mallory	Woodcock	Federal Aviation Administration	WG Support

SUMMARY OF TASKING

The DPE Reforms WG will:

- Provide advice and recommendations to the ARAC on the most effective ways to identify areas of needed reform with respect to regulatory and policy changes necessary to ensure an adequate number of designated pilot examiners are deployed and available to perform their duties to meet the growing public need.
- The Group should review any relevant materials to assist in achieving their objective.
- Review all regulatory and policies related to designated pilot examiners appointed under 14 CFR 183.23. Specific areas include, but are not limited to, 14 CFR part 183, 14 CFR part 61, FAA Order 8900.1, FAA Order 8900.2, and FAA Order 8000.95.

SUMMARY OF TASKING (con't)

- Will make recommendations with respect to the regulatory and policy changes if necessary to allow a designated pilot examiner perform a daily limit of 3 new check rides with no limit for partial check rides and to serve as a designated pilot examiner without regard to any individual managing office.
- If the task could result in recommendations with substantive changes to policies and rulemaking, then the working group will consider the role of potential qualitative and quantitative costs and benefits, including impacts to resources, of these recommendations compared to their alternatives.
 - If available, the working group should provide preliminary cost and benefit information in the report.
- Develop a report containing recommendations on the findings and results of the tasks explained above.
 - The recommendation report should document both majority and dissenting positions on the findings and the rationale for each position.
 - Any disagreements should be documented, including the rationale for each position and the reasons for the disagreement.
- The working group may be reinstated to assist the ARAC by responding to the FAA's questions or concerns after the recommendation report has been submitted.

SCHEDULE

- Full WG #1 meeting held October 29, 30, 31st in Washington, D.C.
- Three Subgroups Launched during the WG 1st meeting. Subgroups electronically meeting bi-weekly until tasks complete and ready for update and review during in person WG mtg #2
- COVID 19 impacts require termination of in person meetings – shifted to virtual format for a timeframe TBD.
- Full WG #2 meeting held virtually on March 19th via a Go2Meeting platform. Reviewed progress of all 3 subgroups.
- Full WG #3 meeting held virtually on May 21st via a Zoom platform. Briefings from senior FAA leadership, AFS status on Airman Certification ODA policy, and progress review for all 3 subgroups.
- Full WG #4 meeting held virtually on June 24th via a Zoom platform. AFB 720 reviewed IACRA capabilities current state, full group review of progress and emphasis of the process of merging appropriate recommendation concepts across the 3 sub groups, briefing of ARAC's approval of timeline extension of 6 months if needed, and progress review (including national oversight program concept) for all 3 subgroups.
- Full WG #5 meeting held virtually on August 11th via a Zoom platform. AFS briefing on recent situation with fraudulent examiner activity, AFS briefing on ODA draft policy status, review of a proposed DPE Code of Conduct developed within the aviation community and discussion of COC elements that might be applicable for inclusion into recommendations, review of merging of concepts status and cross pollination of recommendation concepts, and progress review for all 3 subgroups.
- Next full WG meeting is scheduled for October 1st, 2020 with a virtual format.
- Status reports schedule for each quarterly ARAC meeting until final report complete
- Final report back to ARAC by June 2021 quarterly meeting.

STATUS OF TASKING

- DPE Reform Work Group has completed 5 full group meetings. Outputs include:
 - Full review of ARAC WG process, rules of WG, milestones, and timeline
 - Full review of current state elements for DPE selection, training, deployment, & oversight
 - Three subgroups identified and sub group chairs selected. Specifically tasked with developing recommendations and process around:
 - DPE Selection Process
 - Training Elements and Mentoring
 - Deployment/Oversight
 - All 3 groups are considering the following while developing recommendations:
 - No GEO boundaries
 - Possible incorporation of Code of Conduct elements within certain recommendations
 - Maximum testing limitation for Designees
 - Mentorship opportunities
 - ODA Elements
 - Other models/parallel processes
 - Significant progress with a three areas of focus as outlined. DPE Selection Matrix under development, designee locator enhancements being considered, national oversight program being considered, and industry opportunities for designee support are all being explored. Recommendation concepts are maturing to the point of needing full WG review, integration, and cross pollination to ensure a well balanced, improved environment for all aspects of DPE work. Specific ties to ARAC tasking and recommended measures of success are being incorporated into each subgroup's recommendations. A few recommendations will be outside of scope, but impactful/necessary. Those will be clearly identified separate from WG tasking recommendations.
- October 1st, 2020 next full WG virtual meeting to review all sub group recommendation concepts and identify areas of cross over. Full WG will determine refinement needed and begin the final shaping of all needed recommendations – While virtual meetings will continue until state and national guidance allows travel and group gatherings, the requirement for in person face-to-face finalization meetings is quickly approaching in order to complete all WG tasks.

AREAS of ARAC CONSIDERATION

- None at this time

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

Keith R. Morgan
Subcommittee Chair

10 Sept 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 (all virtual):
 - January 28, 2020
 - April 21, 2020
 - July 28, 2020
 - October 27, 2020

Active Working Groups

- Flight Test Harmonization
- Transport Aircraft Metallic and Composite Structures
- Engine Ice Crystal Icing
- Avionic Systems Harmonization
- Engine Harmonization

Look Ahead Report Submittal Schedule to ARAC

- June 2020
 - FTHWG Vdf/Mdf – ARAC approved
 - FTHWG Pilot Induced Oscillation – ARAC approved
- December 2020
 - TAMCSWG SDC-SLP
 - TAMCSWG Structural bonding
 - ASHWG final report
- March 2021
 - TAMCSWG Crack Interaction

Flight Test Harmonization Working Group Status Report to the Transport Aircraft and Engines Subcommittee of the Aviation Rulemaking Advisory Committee

Brian P. Lee, Boeing
Laurent Capra, Airbus
Working Group Co-Chairs

28 July, 2020

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 Murilo Ribeiro 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	Centre d'Essais en Vol Francois MEIGNIEN
				Operators
ANAC (Brazil) Pedro Donato	Dassault Philippe Eichel +SME's			ALPA Rikki Gardonio John Cinnamon

STATUS OF TASKING

- Phase 3: **COMPLETE!**
- Phase 4 Planning Complete – ready for formal tasking
 - Tasking Expected at September, 2020 ARAC
 - Planning for 36 month task period...will begin re-planning of tasks after the Summer break
- ASHWG: Low Energy Alerting
 - FTHWG is participating (B. Lee is the liaison)
 - Telecoms each 2 weeks (See Clark's report)

FTHWG Phase 4

- We are anticipating Phase 4 Tasking
 - Topic 32 Codification of TALPA recommendations
 - Topic 33 Dry runway braking methodology for landing
 - Topic 21 Narrow Runway Certification
 - Topic 16 (formerly HQRM, Proposed working title: Failure Assessment Methodology and Evaluation)
 - Topic 22 Derate thrust
 - Topic 26 Landing in Abnormal Configurations
- Initial Phase 4 Planning complete (anticipating tasking)
- Initial deliberation have begun on:
 - Dry Runway Braking
 - TALPA
 - Narrow Runway Certification
- Initial conversations (Topic leaders and Co-Chairs) have begun on Topic 16 (FAME)

Phase 4 Planning (Pre Coronavirus)

039

	Dassault Bordeaux	Boeing Seattle	EASA Cologne	FAA Long Beach	Airbus Toulouse	Textron Wichita	Dassault Paris	Embraer Melbourne	EASA Cologne	TCCA Ottawa	Airbus Toulouse
	March 2020	June 2020	Sept 2020	Dec 2020	March 2021	June 2021	Sept 2021	Dec 2021	March 2022	June 2022	Sept 2022
16 FAME											
32. TALPA											
33. Dry Runway Stopping											
21. Narrow Runway											
22.Derate Thrust											
26. Landing Abnormal Configs											

X = report complete and to TAE

FTHWG Phase 4 Contingency Plan (Accommodating coronavirus)

	Dassault Bordeaux	Telecons	EASA Cologne	FAA Long Beach	Airbus Toulouse	Textron Wichita	Dassault Paris	Embraer Melbourne	EASA Cologne	TCCA Ottawa	Airbus Toulouse	TBD
	March 2020	June 2020	Sept 2020	Dec 2020	March 2021	June 2021	Sept 2021	Dec 2021	March 2022	June 2022	Sept 2022	Dec 2022
16 HQRM												X
32. TALPA												
33. Dry Runway Stopping												
21. Narrow Runway												
22. Derate Thrust												
26. Landing Abnormal Configs												

To Be Re-Planned
when we see the
tasking

Press on via telecons even
without formal tasking



Ask for Start of Tasking: Sept 2020 (or even December)
30 months to support a March (or June) 2023 ARAC final submittal

STATUS OF TASKING ACTIVITIES

- → FTHWG-54: 8-12 June, Seattle (Boeing) –: Meeting was virtual (less efficient)
 - 5-days of telecons
 - 8-hour telecons are not workable, so limited to 3 hours (15 contact hours vis 35 for a face-to-face meeting)
- Moving into Phase 4 (ahead of formal tasking, to maintain continuity and momentum)
 - Weekly telecons...now on hold for EuroLean summer break
- FTHWG 55: 14-18 September in Cologne (EASA) has been moved to virtual (similar to Seattle)
- Initiating back-up planning for the 7-11 December face-to-face (FAA hosting in Los Angeles)
 - Contingency planning for Seattle has begun (Uncertainty with e.g. State of California)
 - Virtual meeting planning is also commencing

2020

TAE : 28 January, 21 April, 28 July, 27 October

ARAC: 19 March, 18 June, 10 September, 10 December

AREAS for ARAC CONSIDERATION

- No additional guidance needed from FAA or ARAC

Transport Airplane Metallic and Composite Structures Working Group

*Status Report, Extension Topics, Briefing to the TAE
– July 2020 meeting*

Doug Jury (Delta Air Lines)
Working Group Chair

July 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, **Linda Jahner**); EASA (Richard Minter, Simon Waite); ANAC (Pedro Caldeira, Marco Villaron, Fabiano Hernandez); 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)

Final report delivery scheme will be three separate reports

- At present, no rule change expected for any of the tasks. Guidance change only.
- SDC/SLP report in final stages, though two areas of dissent have been revealed as we work through the final language
- 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 **general** guidance recommendations.

Working Group energy to complete tasks is lacking in some members, particularly those industry members that are faced with major company changes in response to economic impacts of the pandemic and related world events

- Only enough apparent efforts available to complete one report at a time, possibly because each report involve significant writing and review efforts by themselves

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
- Draft report has been in circulation with smaller “sub-team” and shared with larger WG body for feedback
- 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
 - Perform fatigue test to demonstrate acceptable level of fatigue reliability
 - WG working to resolve “target” reliability – likely not a prescriptive target value
 - One final item for resolution by “sub-team” is nuanced definition of “reliability” in context of this fatigue discussion
 - Perform testing to demonstrate controlled, slow crack growth
 - Develop manufacturing control plan
 - Additional discussion in report on integrally stiffened panels (ISP) as SLP: some disagreement recently uncovered regarding demonstration of fail safety for ISP and what is an “obvious partial failure”
- Proposed recommendation has matured past concept and is in process with iterative draft & review process by smaller team – Draft report has gone through a few iterative review rounds with both sub-team and larger WG body (with NAA input)
- 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)

049

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
- Other proposals include continuation of regulatory & industry activities to promote knowledge transfer and best practices (manufacturing, design and engineering) that can provide benefit supplemental to regulatory materials updates (guidance)
- Rationale for quality control document content
- Much of work prepared and under review by subteam – requested focus of WG members time has been to SLP report
- Expect once SLP team report is produced, path for structural bonds and crack interaction reports should be somewhat easier
- Sub-team drafted report to be shared with full WG by mid-August, expect ~1 month of WG member review and resolution of comments/questions

SUMMARY OF TASKING – extended topics (continued)

050

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 – **do not have full consensus on this proposal (general disagreement is that proposal does not go far enough)**
 - **Also proposal to simply add reference in AC 25.571-1D to AC 91-82A did not receive consensus (similar disagreement that proposal should go further).**
 - **Remaining difference between WG members about what crack interaction is (i.e., crack interaction vs. load redistribution).**
 - **Clear that this must be resolved in report**
 - **Based on observed roadblocks, FAA has provided feedback to sub-team as to what items they would like to see addressed in report.**
 - **Other more recent discussion on viable paths to produce a report with recognition that full consensus may not be achievable**
 - 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
- May find impact to WG member availability to participate due to COVID-19 related business decisions (furloughs, leave of absences, etc)

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	August 2020 (we had intended final report to be shared with TAE now, but ECD is about month)
• 2: Structural Bonding	Sept 2020
• 3: Crack Interaction	Oct 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

27 July 2020

MEMBERS of ICI WG

Member Name	Organization	Role
Alan Strom	(FAA-ANE Standards) <u>FAA Representative</u>	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 <i>(left company)</i>	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
Adam Malone	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.
 - a) 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).
 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, Turboshift 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.

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
- Current plan is to continue with telecons every 3 weeks for the rest of 2020
 - Next telecon scheduled August 17
- February 2021 – Honeywell, Phoenix, AZ
- ARAC membership agreed to timeline extension pending data (see next slides)

STATUS OF TASKING

- Work Plan revised 16 June 2020 to reflect telecons in lieu of F2F meetings for remainder of 2020, extended timeline due to COVID-19, possibility of high aerosol flight campaign in July 2022
- Future Agenda Topics
 - Mixed Phase (liquid + ice water) atmospheric definition discussion
 - Potential use of existing Appendix C definition (note: no change to Appendix C)
 - Probe susceptibility to mixed phase
 - Analysis of in-service events vs. currently defined App D envelopes
 - Definition of “cold part” (upper left-hand portion) of Appendix D envelope

AREAS of ARAC CONSIDERATION

- None

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

Clark Badie
Working Group Chair

July 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.nts.gov/layouts/nts.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:

- Late April meeting was cancelled. No future date set.
- Continuing to work the report update offline and supporting through periodic
- telecons.
- Smaller group of team members progressing final sticking points
 - Methods to ensure low energy alerting is 'timely' given requirements vs. practical means
 - Use of the term 'to the extent practicable' vs alternative wording
- Offline pace has been effective but a bit slow due to schedules and work
 - interruptions
- Impact to final report still to be confirmed, current estimate is late August 2020

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
Brian Lee	Boeing	brian.p.lee@boeing.com
Karl Minter	ALPA	Karl.minter@alpa.org
Chris Heck	ALPA	Chris.heck@alpa.org
Christine Thibaudat	Airbus	christine.thibaudat@airbus.com
Thierry Bourret	Airbus	thierry.bourret@airbus.com
Tim Buker	Gulfstream	Timothy.Buker@gulfstream.com
Janiece Lorey	Gulfstream	janiece.lorey@gulfstream.com
Robin Brulotte	Transport Canada	Robin.brulotte@tc.gc.ca
Kajetan Litwin	Transport Canada	Kajetan.Litwin@tc.gc.ca
Marcelo de Lima Camargo	Embraer	macamargo@embraercom.br
Loran Haworth	NASA	loran.a.haworth@nasa.gov
Bob Stoney	FAA	Robert.stoney@faa.gov
Clark Badie	Honeywell	Clark.badie@Honeywell.com

AREAS of ARAC CONSIDERATION

- None

Engine Harmonization Working Group Status Report to the Aviation Rulemaking Advisory Committee

Neill Forrest/Peter Turyk
Working Group Chair

28 July 2020

Members of the Working Group

Members:

Alan Strom	(FAA-ANE Standards)	FAA Representative
Keith Morgan	(Pratt & Whitney)	ARAC Representative
Neill Forrest*	(Rolls-Royce plc)	WG Chair Retired 7/31/2020
Ed Barry	(GE Aviation)	
Yves Cousineau*	(Transport Canada)	
Antony Boud*	(EASA)	
Peter Turyk*	(Pratt & Whitney Canada)	WG Chair
Pat Markham*	(HEICO)	
Dave Manion	(Boeing)	
Joelle Rambour	(SAFRAN)	
Pierre-Emmanuel Arnaud	(Airbus)	
Doug Hogge*	(Williams International)	

* Continuing from original EHWG Endurance Test ARAC working group

Other Participants/Subject Matter Experts:

Brent Hart – Office of Rulemaking, FAA

Phil Haberlin – FAA-ANE Standards

EHWG Task

The FAA requests clarification regarding the following areas of the original Endurance Test recommendation report-

1. Severity equivalence process and its intended purpose.
2. Severity equivalence process for other than creep failure modes, including failure modes not currently addressed by § 33.87 regulation.
3. Constraints for implementing the recommended hybrid performance-based and prescriptive solutions.
4. Role of the engine CPA.
5. Simplify the possible approaches by removing the Tmetal option.
6. Various acceptable outcomes for an alternate endurance test.

EHWG Approach

- Develop and submit to the TAE a white paper containing responses to the questions posed by 31 March 2021.
(evaluate after assessing effort in 1st question)
- Working group sharing of proprietary information: data will be sanitized and will not define the engine model, or other proprietary information; however, information will be sufficient for the purpose to address the task.
- Collaboration means
 - Sharepoint site where documents will be loaded for review and record keeping. The Alternate Endurance Test Sharepoint site is still active. Employ innovative techniques for problem solving
 - Identify any subgroups, as needed

EHWG Status

- Meetings shall be virtual / teleconference due to COVID-19 related travel restrictions anticipated to be effective for the majority of this activity.
- Initial meeting (kickoff) held May 7th 2020, planning meeting held May 19th 2020
- Follow-on meetings to be held at a frequency of once per week starting June 2nd 2020, each focusing on progress towards responses to individual questions and compilation of the final document.
- Agenda for each subsequent meeting will be agreed at the end of the previous mtg. and issued with any minutes.

AREAS of ARAC CONSIDERATION

Approval of new WG members