



AVIATION RULEMAKING ADVISORY COMMITTEE (ARAC) MEETING

December 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)
 - ❖ Airplane Flying Handbook along with new Airman Certification Standards for Flight Instructor – Powered-Lift, Private Pilot – Balloon, and Airline Transport Pilot & Type Rating – Helicopter.
 - 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: 6/17/2021) – Mr. Sean Elliott
 - Training Standardization Working Group (Present Recommendation Report to ARAC: TBD)
 - 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 Bonding and “Weak Bonds” (Present Recommendation Report to ARAC:3/2021)
- Ice Crystals Icing Working Group (Present Recommendation Report to ARAC: 12/2021) – Ms. Melissa Bravin and Mr. Allan van de Wall
- Avionics System Harmonization Working Group (Present Recommendation Report to ARAC:3/2021) – Mr. Clark Badie
- Engine Harmonization Working Group (Present Response to FAA Inquiry to ARAC: 3/2021)
- Recommendation Report
 - Transport Airplane and Engine (TAE) Subcommittee – Mr. Keith Morgan
 - Transport Airplane Metallic and Composite Structures Working Group – Mr. Doug Jury
 - ❖ Structural Damage Capability for Single Load Path Structure
- New Taskings
 - Avionics Systems Harmonization Working Group
 - Flight Test Harmonization Working Group
- Any Other Business
 - DOT Policy on Guidance Materials and FAA Implementation
 - FAA update on regulatory activities
 - Remaining Fiscal Year 2021 Meeting Dates
 - Thursday, March 18, 2021
 - Thursday, June 17, 2021
 - Thursday, September 16, 2021

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: September 10, 2020

MEETING TIME: 1:00 PM EST

LOCATION: 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 July 9, 2020 (85 FR 41271).

ATTENDEES: Committee Members

Yvette A. Rose	Cargo Airline Association (CAA) <i>ARAC Chair</i>
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)
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	Aeronautical 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
George Paul	National Air Carrier Association (NACA)
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	
Clark Badie	Honeywell Aerospace
Justin Barkowski	American Association of Airport Executives (AAAE)
	listed above
Antonio Chiesa	Transport Canada Civil Aviation (TCCA)
Maryanne DeMarco	Coalition of Airline Pilots Association (CAPA)
Sean Elliott	Experimental Aircraft Association (EAA)
Roman Frazier	
Jennifer Holder	The Boeing Company
Thomas Howard	The Boeing Company
Doug Jury	Delta Air Lines
Brian Koester	National Business Aviation Association (NBAA)
Brian Lee	The Boeing Company
Kimberly Luu	The Boeing Company
Sam Mintz	Reporter (Politico)

David Oord	Lilium, Airman Certification Systems Working Group Chair
Penny Rea	
FAA	
Kathleen Bradshaw	Aircraft Certification Service
Paul Cloutier	Flight Standard Services
Thuy Cooper	Office of Rulemaking
Martin Crane	Aircraft Certification Service
Jim Crotty	Office of Rulemaking
Sam Dorsey	Aircraft Certification Service
Dan Foster	Air Traffic Organization
Brent Hart	Office of Rulemaking
Linda Lane	Office of Rulemaking
Nellie Lew	Office of Aviation Policy and Planning
Sara Mikolop	Office of the Chief Counsel
Natalie Mitchell-Funderburk	Office of Rulemaking
Chris Moore	Flight Standard Services
Eva Ngai	Office of Communications (Public Affairs)
Lakisha Pearson	Office of Rulemaking
Hank Price	Office of Communications (Public Affairs)
Brandon Roberts	Office of Rulemaking <i>Designated Federal Officer (DFO)</i>
Puja Sardana	The Regulatory Group/FAA
Mary Schooley	Aircraft Certification Service
Walt Sippel	Aircraft Certification Service
Todd Steiner	Office of Aviation Policy and Planning

Giles Strickler	Office of Rulemaking
Mary Thompson	Flight Standard Services
George Thurston	Office of Aviation Policy and Planning
Victor Wicklund	Aircraft Certification Service

Welcome and Introduction

Ms. Yvette Rose, ARAC Chair, called the meeting to order at 1:03 pm. 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 by emailing 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 the Chair, Ms. Rose.

Ms. Rose confirmed all ARAC members were in attendance based on the participant list provided by Zoom. Ms. Rose requested other attendees and FAA staff 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 June 18, 2020,¹ ARAC meeting. Mr. George Paul motioned to accept the minutes, and Mr. Keith Morgan seconded the motion. ARAC voted to ratify the minutes with no objections.

Status Reports

A copy of the September 10, 2020, meeting packet, which includes the presentations, can be found at:

https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ARAC%20September%202020%20Meeting%20Packet.pdf.

¹ The June 18, 2020, meeting minutes can be found here:

https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ARAC%20September%202020%20Meeting%20Packet.pdf.

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 the working group's status had not changed substantially since the last ARAC meeting. She explained that a subgroup of the working group is meeting regularly and is working diligently on the preliminary report. The working group expects to present the report at the December ARAC meeting.

Ms. Rose asked if Mr. Ric Peri, Part 145 Working Group Vice Chair, would like to speak or if any members had any further questions. Mr. Peri noted that a draft preliminary report has been sent out to the working group for comments. Ms. MacLeod emphasized the importance of details and flow in the preliminary report in preparation for the final recommendations expected next year. She confirmed that the working group's internal deadline for the preliminary report is the end of October and that she expects to submit it to ARAC at least 30 days in advanced of the December meeting.

Airman Certification Systems Working Group (ACSWG)

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

Mr. Oord noted that membership had not changed since the last meeting. He reviewed the summary of tasking which included some recent additions. Mr. Oord explained that the schedule is on track, and he has received good feedback on the airmen certification standards previously submitted by the working group. He said the next report is scheduled to be completed by December 2021 (due to the 18-month charter extension that was previously approved). Mr. Oord noted that all meetings continue to be virtual due to COVID-19 and that the working group has continued to make progress on all fronts.

Mr. Oord explained details about the interim risk management handbook and airmen certification standards that were submitted to ARAC for review and consideration.

Ms. Rose asked if there were any questions or discussion regarding the submission. She reminded everyone that if the report is accepted by ARAC and the FAA, it will go out for public comments. Ms. MacLeod asked for clarification regarding the new Department of Transportation (DOT) policy stating that guidance would have to go through the rulemaking process and if this report would be impacted. Mr. Roberts clarified that guidance documents are not actual rules, but they will go through a similar process to rulemaking with regard to opportunity for public comment. Ms. MacLeod encouraged ARAC to provide more avenues to make this information more readily available to the

public. Mr. Peri asked that the FAA brief ARAC at the December meeting on how the agency will implement this new DOT policy. Ms. Rose supported that recommendation. Ms. Rose noted that she will put this topic on the agenda for the December meeting.

Ms. MacLeod motioned to accept the report, and Mr. Bill Whyte seconded the motion. No one opposed, and the ARAC voted to accept the certification standards report.

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 stated that four new observers (FAA personnel), who bring various expertise, joined the working group. He noted that he received information from Ms. Thuy Cooper about a person interested in joining the working group, which he is reviewing with Mr. Trey McClure.

Mr. Elliott reviewed the working group's schedule and noted that all meetings are virtual due to COVID-19. He explained that there are three working subgroups meeting on a weekly basis to develop concepts and recommendations around selection, training and mentorship, and oversight. He noted the full working group met via Zoom in August where it reviewed the progress of the subgroups and discussed other tools that could be helpful in drafting the final recommendation. Mr. Elliott stated the next full working group meeting is scheduled virtually for October 1, 2020. He said the status of the tasking is on track, and the working group plans to have the report submitted in advance of the June 2021 ARAC meeting.

Mr. Elliott did not list any areas for ARAC consideration.

Transport Airplane 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 held three virtual meetings (in lieu of a face-to-face because of COVID-19) this year. He reviewed the rest of the schedule, which includes a meeting scheduled in October.

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 reviewed the schedule of deliverables for the TAE working groups. He noted that TAE intends to present several recommendation reports at the December 2020 ARAC meeting. Noting that ARAC expects to receive four recommendation reports at

the December meeting, Ms. Rose proposed that the TAE working group presents one of the recommendation reports at the March 2021 ARAC meeting. Mr. Morgan agreed.

Flight Test Harmonization Working Group (FTHWG)

Mr. Morgan asked Mr. Brian Lee to provide 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. Lee quickly reviewed current membership and summarized the schedule.

He summarized the phase 4 tasking, which includes several new additions. Mr. Morgan noted that Ms. Mary Schooley contacted him prior to the meeting with an update on the phase 4 tasking and that it is still being finalized. Mr. Morgan stated he expects to see it by the December ARAC meeting. He explained membership includes a good representation of industry/people to take on phase 4. He reminded ARAC that the phase 3 tasking is complete, as are preparations for the phase 4 tasking. As such, the working group is awaiting the formal phase 4 tasking. Mr. Lee noted that the working group is also supporting ASHWG on some work.

Mr. Lee noted that the working group prepared a new contingency plan to account for the impacts of COVID-19, which may need to be modified based on the formal tasking of phase 4.

Mr. Lee reviewed the schedule and noted that virtual meetings are not as efficient as face-to-face meetings, but the working group is engaged and enthusiastic. The working group's next scheduled meeting is virtual in September 2020, and possibly a socially distanced in person meeting in December 2020.

As noted at the June ARAC meeting, the only area for ARAC consideration is the formal tasking of phase 4. Ms. Rose noted that she appreciates the working group's momentum, and it is unfortunate the working group may have to wait until December to formally accept the phase 4 tasking.

Transport Aircraft Metallic and Composite Structures Working Group (TAMCSWG)

Mr. Morgan asked Mr. Doug Jury to provide 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. Jury reviewed the list of members, noting that two new members will be replacing current members who are retiring. He explained the summary of tasking, which includes three topics that will be presented to the ARAC in three independent reports. The three topics of the reports are: 1) Structural Damage Capability (SDC) for Single Load Path (SLP) structure; 2) Structural Bonding and "Weak Bonds;" and 3) Repeat Inspections and Crack Interaction. Mr. Jury detailed the statuses and timelines for each report. Ms. Rose

noted that pushing the second topic to the March 2021 meeting would work better for the ARAC's schedule, and Mr. Morgan agreed.

Mr. Ambrose Clay asked if the proper installation of aircraft shims is a topic that should be considered under this working group. Ms. Rose explained that FAA would have to directly task that issue to the working group. She asked if the working group was currently considering this issue. Mr. Clay suggested there may be some overlap between subjects such as improper installation of shims and crack interaction. Mr. Jury noted that there is a continual operational safety program that determines safety issues caused by damaged or defective shims, and there are not items in the tasking that address that specific concern. Mr. Walt Sippel (FAA) explained that this topic is more of a manufacturing issue than an ARAC issue.

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 working group is on schedule, and there are no changes from the last couple of updates. The working group has met virtually 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 asked Mr. Clark Badie to provide a brief status update on the ASHWG. Mr. Badie reviewed the summary of tasking, which includes identifying and developing recommendations on low energy alerting requirements to supplement the standards and guidance on low speed alerting systems previously submitted by the group. He noted that there are no dates set for face-to-face meetings, and all meetings have been virtual due to COVID-19. Mr. Badie announced the report has been distributed internally for feedback, and the working group hopes to have a draft to TAE by mid-October. He noted two members on the working group who will retire and stated the working group does not need any help or support from ARAC at this time.

Engine Harmonization Working Group (EHWG)

Mr. Morgan explained that this working group is a reinvigoration of the endurance team formed to address questions from the FAA on the submitted recommendation report. He noted that the former working group chair (Neill Forrest) retired July 31, 2020, and the new chair is Peter Turyk (Pratt & Whitney Canada).

Mr. Morgan reviewed the tasking, which asks for clarification from the original report. He believes the working group's work should be done by the end of March 2021 and

discussed at the June 2021 ARAC meeting. Mr. Morgan did not list any areas for ARAC consideration.

Other Business

ARAC Charter

Mr. Roberts announced that the ARAC charter will be renewed for two years and that the notice announcing the renewal would publish in the Federal Register on September 14, 2020.

Status of ARAC-submitted Recommendations

Mr. Roberts confirmed that the FAA received the ARAC recommendation reports for pilot induced oscillations and definitions for VDF/MDF on June 19, 2020. He noted the appropriate FAA offices are reviewing the reports. Mr. Brandon stated both reports are available on the FAA Committee website.

He also announced that the FAA initiated a rulemaking on Secondary Flightdeck Barriers (RIN 2120-AL59).² Details on the rulemaking project are in the Spring Unified Agenda.³

ARAC Training Standardization Working Group (TSWG)

Mr. Roberts provided an update on the TSWG tasking. He noted that subject matter experts have been identified to support ARAC with the tasking.

Mr. Roberts confirmed that the next ARAC meeting is December 10, 2020.

ARAC Roundtable

Ms. Dunham stated that she sent an email to ARAC members regarding the need for improved technology to locate records and flight recorders in an accident and the need for timely recovery of critical data of an accident in a remote location. Ms. Dunham is forwarding her concerns to the FAA Offices of Accident Investigations and Prevention and Aircraft Certification. She wanted to make everyone aware of these concerns for others that may find this as a topic of interest or in the case this topic comes back to ARAC. Ms. Rose acknowledged and appreciated this concern. Ms. Dunham requested that anyone who would like a copy of the email to send her an email.

Mr. Kenagy stated that the DOT/FAA website on current rulemakings does not seem to be updated frequently, and he would like an update on the Remote ID rulemaking. Mr.

² The official title of this rulemaking is "Security Considerations in the Design and Operation of the Flightdeck on Transport Category Airplanes".

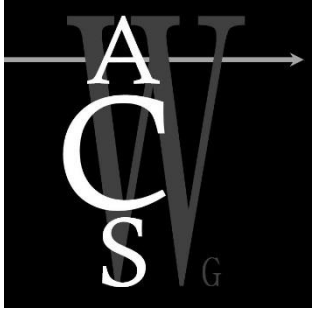
³ <https://www.reginfo.gov/public/do/eAgendaMain>

Roberts noted that the Spring Unified Agenda reflects a publication date of December 31, 2020. The rulemaking's RIN is 2120-AL31..⁴

Adjournment

Ms. Rose concluded that the Zoom meeting went smoothly, and she adjourned the meeting at 2:33 p.m.

⁴ The official title of this rulemaking is "UAS Remote Identification".



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

David Oord
Working Group Chair

November 20, 2020

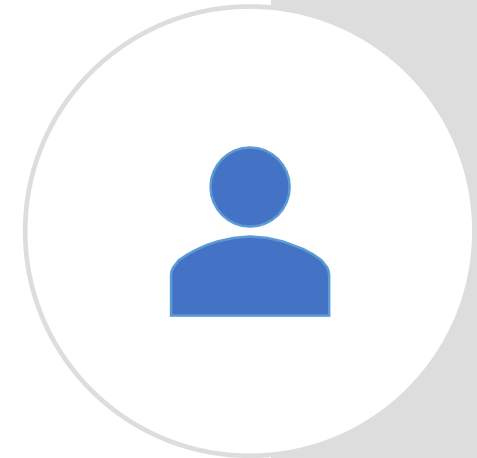
MEMBERS of ACSWG - INDUSTRY

- 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

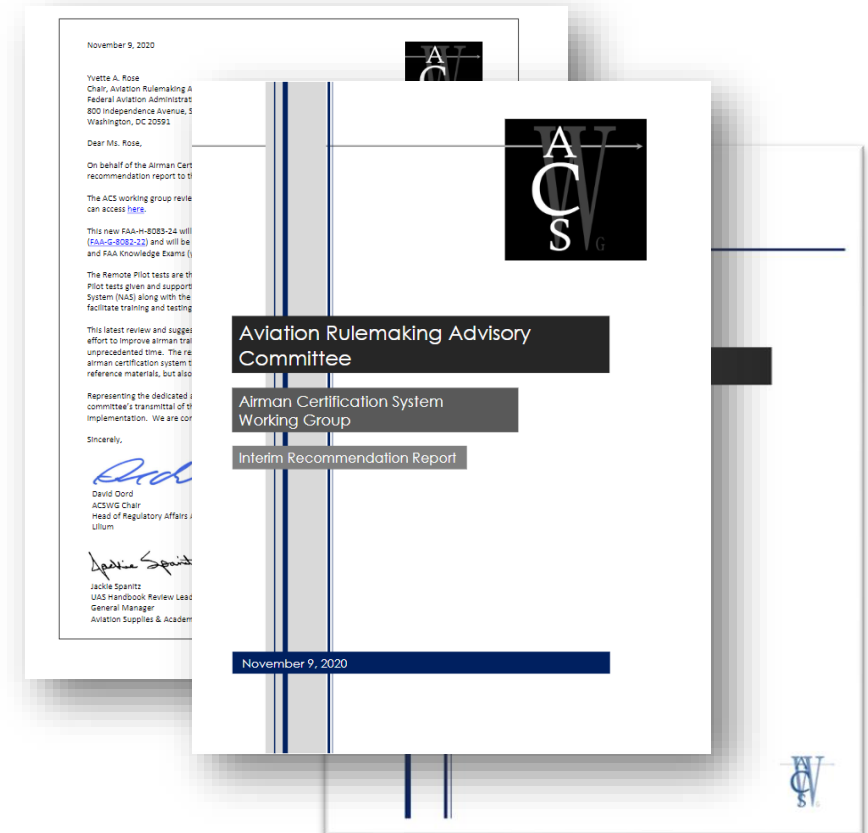
- 2020 Meetings –
 - March 17 & 18 (cancelled)
 - June 23 (virtual meeting)
 - September 22 (virtual meeting)
 - December 8 (virtual meeting)
- 2021 Meetings –
 - Options under evaluation

STATUS OF TASKING

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

AREAS of ARAC CONSIDERATION

- **Interim Recommendation Report –**
 - Handbook Recommendation
 - Unmanned Aircraft Systems Operating Handbook (FAA-H-8083-24)
 - Draft
 - Recommendations and Suggestions



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

Sean Elliott, EAA Vice President
Working Group Chair

December 10th, 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
Shawn	Knickerbocker	Independent DPE – **late add	WG Observer

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 for all 3 subgroups.

SCHEDULE

- 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.
- Full WG #6 meeting held virtually on October 1st via a Zoom platform. AFS updated the group on 737 Max effects on delegation management and ODA policy timeline, Kevin Clover of the FAAST team presented information on new/existing apps that could be useful for DPE work, the group discussed Code of Conduct vs Code of Ethics and its potential use as a tool, Continued to review merging of concepts and cross pollination of recommendations, Introduced a new Strawman document for the consolidation of a three subgroup recommendations into a final document, and progress review for all 3 subgroups.
- Full WG #7 meeting held virtually on November 19th via a Zoom platform. Karen Lucke, AFS-600 Acting Division Manager, was introduced to the group and addressed the importance of the work being done, an update on the Code of Conduct was provided, additions and modifications to the Strawman document were reviewed, a new form for recommendation documentation for the 3 subgroups was introduced, full WG review of the recommendations from each of the 3 subgroups were discussed and debated, the selection Matrix was discussed and debated, A status color coding system was agreed upon for inclusion with the recommendation submissions documentation.
- Next full WG meeting is scheduled for December 17th, 2020 with a virtual format. – the desire to travel to meet in person for the late Spring was discussed, but the group also acknowledged the possibility of having to complete the ARAC tasking with only virtual meetings.
- 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 7 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, and industry/technological tools 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. Level of consensus is being identified and a scoring color assigned. A few recommendations will be outside of scope, but impactful/necessary. Those will be clearly identified separate from WG tasking recommendations.
- December 17th, 2020 next full WG virtual meeting to review progress on all recommendations, merge concepts further, and test drive selection matrix. Full WG will continue to refine and final shape recommendations developed, supporting technological apps will be discussed further, Misc bucket will be reviewed and finalized, niche certification activities will be discussed as possible transition to Sport Pilot philosophy of instructor training and endorse rather than certification testing – Winter virtual work will continue with the hope of a late Spring in person meeting to finalize recommendations report.

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 December 2020

Members of the Transport Aircraft and Engines Subcommittee

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
 - November 10, 2020
- 2021 Meetings
 - January 26, 2021
 - April 27, 2021
 - July 27, 2021
 - October 26, 2021

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

- December 2020
 - TAMCSWG SDC-SLP
- March 2021
 - TAMCSWG Structural bonding
 - ASHWG final report
- June 2021
 - TAMCSWG Crack Interaction
 - EHWG Endurance Test Clarification Report

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

27 October, 2020

Members of Flight Test Harmonization Working Group⁰³⁵

(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 December, 2020 ARAC
 - We understand the topics, are (re)planning the task schedule
- Since finishing Phase 3, the group has been proceeding to work Phase 4 topics without formal tasking (at limited rate due to COVID)
- **ASHWG: Low Energy Alerting**
 - FTHWG is participating (B. Lee is the liaison)
 - Telecoms each 2 weeks (See Clark's report)

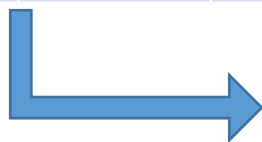
FTHWG Phase 4

- 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 HQRМ, Proposed working title: Failure Assessment Methodology and Evaluation)
 - Topic 22 Derate thrust
 - Topic 26 Landing in Abnormal Configurations
- 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)
 - Plan to kick off in June 2021

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								Report to ARAC				
33. Dry Runway Stopping								Report to ARAC				
21. Narrow Runway										X	Report to ARAC	
22. Derate Thrust									X	Report to ARAC		
26. Landing Abnormal Configs										X	Report to ARAC	

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 55: 14-18 September in Cologne (EASA) has been moved to virtual (similar to Seattle June meeting)
- 7-11 December face-to-face meeting will be virtual instead
- March face-to-face (Toulouse) is in question...may have to go virtual
- Continuing to progress three of the Phase 4 topics virtually
 - Weekly telecons
 - Planned concentrated quarterly meetings – face-to-face when we can return to that format

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

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

Doug Jury (Delta Air Lines)
Working Group Chair

October 27, 2020

Members of the Working Group

- Industry WG voting members:
 1. **Michael Gruber – retiring in Nov*** (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 – recently retired*** (British Airways)
 10. Doug Jury (Delta Air Lines) –Chairperson
 11. Mark Boudreau (FedEx)
 12. Eric Chesmar (United Airlines)
- *** Both recent and pending retiring members have replacement members identified**
- 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)

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
- 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.

COVID-19 pandemic created challenges for the Aviation Industry to continue full-time efforts on remaining topics.

- A negative economic impact experienced by most companies
- Resources (finances and personnel) are diminished, which has resulted in higher work-load , furloughs, or shorter work hours for working group members
- Working Group focused efforts mostly on one report at a time

SUMMARY OF TASKING – extended topics (continued)

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

- Report is near completion
 - General agreement on content, including dissenting positions
 - Editing report to reflect general agreement
 - Seeking final review and approval of changes that reflect recent discussions
- 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

SUMMARY OF TASKING – extended topics (continued)

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

- 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
 - Reconciled what “target” or “relative” reliability means and clarified that it is not a prescriptive value
 - Perform testing to demonstrate controlled, slow crack growth
 - Develop manufacturing control plan
 - Identified what is different between SLP and MLP
 - Additional discussion in report on integrally stiffened panels (ISP) as SLP
 - Added two separate positions regarding demonstration of fail safety for ISP and what is an “obvious partial failure”

SUMMARY OF TASKING – extended topics (continued)

048

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

- Initial objective: Send report to—
 - TAE for 30-day review and discussion/approval during TAE 10/27 meeting
 - ARAC for 30-day review and discussion/approval during ARAC 12/10 meeting
- WG unable to meet initial objective for TAE review and discussion during 10/27 meeting
 - COVID-19 pandemic impacting WG members ability to fully engage on ARAC activity
 - Time to incorporate and review changes based on recent discussions has taken longer than expected
- New proposal on schedule to TAE:
 - Submit signed report to TAE members by 10/28 (WG will know if this is achievable by 10/27)
 - Request TAE to gather for an ad hoc meeting
 - Propose the week of 11/9
 - Propose an abbreviated review equaling about 2 weeks
 - If report is acceptable to TAE, then send it to ARAC for their review in advance of 12/10 meeting (will be a few days short of normally requested 30-day review period)
- Optional new proposal on schedule to TAE:
 - If the proposed schedule can not be supported by TAE, then the report should be included in ARAC's next quarterly meeting in March 2021

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
 - Initial round of draft report completed by two members – other subteam members are still finishing their sections and providing comments on other sections
- WG member focus has been directed on getting resolution to SLP report - optimistic we can get report to TAE by next meeting in 2021.

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
 - Guidance changes:
 - No single recommendation on guidance change will reach consensus
 - Will likely be two sets of recommendations – each supported by rationale by subset of WG team
 - Example cracking scenarios (real images, FAA participant recommended example, other schematic model examples) – dissenting position is that is too prescriptive
 - Alternative recommendation: crack interaction to be considered in cases where it is expected – do not have full consensus on this proposal (dissenting position is that proposal does not go far enough)
 - 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.
 - Latest attempt to draft report to capture the above has been prepared by WG member submitted to smaller team for initial review.
- 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.
- WG team support – certain feedback suggests strong interest in reaching conclusion on this subject, but work is progressing slower than pre-COVID. Getting report to TAE by 1Q 2021 meeting may be overly optimistic, but we are still working towards that.

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 ^[1]:

• 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
• Three recommendation reports – submitted to TAE	
• 1: Structural Damage Capability – Single Load Path	Oct/Nov 2020
• 2: Structural Bonding	Early 2021
• 3: Crack Interaction	Early-Mid 2021

^[1] May find impact to WG member availability to participate due to COVID-19 related business decisions (furloughs, leave of absences, etc.)

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

19 October 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
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
Mauricio Caio Rosin (new Oct-20)	TCCA	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

- Teleconferences every 3 weeks through the end of 2020
 - ✓ 15 October
 - 2 November
 - 23 November
 - 14 December
- January 2021 F2F meeting cancelled (COVID-19)
 - Weekly 1-hour meetings instead beginning week of 7 January
- Tentative March 2021 F2F meeting planned (Honeywell, Phoenix, AZ)
- Current ARAC ECD extended to December 2021

STATUS OF TASKING

- **Agenda items related to Appendix D atmospheric definition**
 - Effect of continental vs. oceanic MCS
 - 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
 - Definition of “cold part” (upper left-hand portion) of Appendix D envelope
 - Proposal to fair in TWC at a higher level (adiabatic vs. 0.65% adiabatic) down to current HAIC-HIWC TWC levels for cold part of envelope
- **Actions regarding potential of elevated TWC levels in high aerosol regions**
 - ARAC ECD December 2021
 - FAA/ U of Nagoya high aerosol flight campaign scheduled for 2022
- **Sub-Team:** Probability analysis for ICI encounters – preliminary discussions ongoing, methodology presented September 2020
- **Analysis of in-service events vs. currently defined App D envelopes**
- **Economic impact analysis**
- **Additional recommendations for AC 20-147A & ARAC report**

AREAS of ARAC CONSIDERATION

- None

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

Clark Badie
Working Group Chair

December 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:

No face-face meetings possible in 2020 (two were expected).

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
- Additional round of feedback from external stakeholders (e.g. FHTWG members) has been completed and discussed for update
- Final report draft sent to ASHWG team by 6 November – vote and must-fixes to be incorporated

Current Roster

Joe Jacobsen	FAA	Joe.Jacobsen@faa.gov
Brian Bourgeois(*new)	Boeing	brian.d.bourgeois@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
Thierry Bourret	Airbus	thierry.bourret@airbus.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@embraer.com.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

ARAC Engine Harmonization
Working Group Status
150 Hour Alternate Endurance Test
14 CFR 33.87

27 October 2020

Peter Turyk (P&WC) – Working Group Chair

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.

Current Team Membership

Alan Strom	FAA-ANE Standards
Antony Boud*	EASA
Yves Cousineau*	Transport Canada
Peter Turyk* (Chair)	Pratt & Whitney Canada
Keith Morgan	Pratt & Whitney
Ed Barry	GE Aviation
Colin French	Rolls-Royce plc
Bruce Cook	Rolls-Royce Deutschland Ltd & Co KG
Joelle Rambour	SAFRAN
Doug Hogge*	Williams International
Pat Markham*	HEICO
Pierre-Emmanuel Arnaud	Airbus
Dave Manion	Boeing
* Continuing from previous ARAC working group	

Other Participants/Subject Matter Experts:

Brent Hart – Office of Rulemaking, FAA

Phil Haberlen – FAA-ANE Standards

Alternate Endurance test – WG activity status

WG reconvened to address 6 specific feedback items/questions

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

All questions have been discussed & responses in various states of completeness

- Subgroups formed to address individual questions
- Most discussed issues are: severity equivalence & Tmetal option

Weekly meetings – target completion 2021Q1

AREAS of ARAC CONSIDERATION

None

Summary of Highlights for ARAC review of proposed *Transport Airplane
Metallic and Composite Structures Working Group – Recommendation
Report to FAA: Single Load-Path Structures*

11/10/2020

Kevin Jones, Gulfstream, Lead Author
Douglas Jury, Delta Air Lines, WG Chair
Walter Sippel, FAA WG representative

Purpose of Presentation

- To assist Aviation Rulemaking Advisory Committee (ARAC) with the review of the report by providing a high-level summary of key recommendations and other aspects, including an area of non-consensus, related to report's technical content

List of Acronyms

AC:	Advisory Circular
AD:	Accidental Damage
DTE:	Damage Tolerance Evaluation
ED:	Environmental Damage
ISP:	Integrally Stiffened Panels
MLP:	Multiple Load Path
MSG-3:	Maintenance Steering Group
PSE:	Principal Structural Element
SDC:	Structural Damage Capability
SLP:	Single Load Path
TAMCSWG:	Transport Airplane Metallic and Composite Structures Working Group

Background

- In 2015, the Aviation Rulemaking and Advisory Committee (ARAC) established the Transport Airplane Metallic and Composite Structures Working Group (TAMCSWG), under the TAE Subcommittee to provide advice and recommendations regarding revision of the damage-tolerance and fatigue requirements of Title 14, Code of Federal Regulations (14 CFR), part 25, including subparts C and E of 14 CFR part 26; development of associated advisory material; and estimate associated costs and benefits.
- In 2018, TAE/ARAC received and approved the *Transport Airplane Metallic and Composite Structures Working Group – Recommendation Report*, which covered twelve topics associated with the FAA's tasking.
 - ARAC also approved a tasking extension to address three additional activities, namely:
 - ✓ Single load path (SLP) structure, which is a topic related to structural damage capability (SDC)
 - ✓ Bonding
 - ✓ Repeat inspection intervals
 - The WG will address each topic in separate reports to TAE and ARAC

Background (cont.)

- The November 2020 report for ARAC review addresses Structural Damage Capability of Single Load Path Structure
 - The 2018 report identified roadblocks encountered by WG for development of general recommendations for Structural Damage Capability (SDC).
 - WG recognized opportunity for consensus on SDC for Single Load Path (SLP) structural designs.
 - From 2018 report: “TAMCSWG supports the following recommendation – focus future efforts beyond the ARAC working group only on limiting and developing requirements for single load path (SLP) structure, which by definition has no SDC.”

Summary of 2018 report recommendations related to SLP

- The recommendations were essentially notional, without specific direction as to where the FAA should embody the information (rule vs guidance), starting with these considerations:
 1. “use of SLP structure that is non-safe life and subject to in-flight loading is only allowed where multiple load path structure is established to be impractical.” ← “is only allowed” implies a rule and the recommendation requested that this be further investigated.
 2. “it is proposed that the applicant should consider the following items for SLP structure: ← “should” implies guidance (means of compliance)
 - A. Minimization of environmental and accidental damage (i.e. consider protection, different materials, etc.)
 - B. Perform a fatigue test or complete fatigue analysis based on test to demonstrate an acceptable level of fatigue reliability
 - C. Perform testing, or analysis based on testing, to demonstrate that the materials and stress levels chosen do indeed provide a controlled slow rate of crack propagation combined with high residual strength
 - D. Develop a manufacturing process control and tracking plan document”
 3. “It is important to make a clear delineation between SLP and integral multiple load path structure (MLP) and it could be a challenge to demonstrate that integral MLP structure does not behave as SLP. In order to do so, the applicant would likely have to consider effectiveness of crack stopping features and period of unrepaired use.” ← WG previously recommended need for applicants to demonstrate that integral MLP structures does not have same criticality as SLP, and the expected challenges associated with refinement of that recommendation

2018 recommendation #1: “use of SLP structure that is non-safe life and subject to in-flight loading is only allowed where multiple load path structure is established to be impractical.” ⁰⁷⁵

2020 recommendation (**Full WG consensus**):

- No Rule Change
 - In 2018, the proposal given the most emphasis was a restriction on SLP structure to only those instances where an MLP design was shown to be impractical.
 - In 2020, the WG determined that this proposal would require a change to the current regulations if adopted. However, after looking at the implications of such a rule change, the WG decided that it would be difficult to enforce uniformly, was too prescriptive, and would significantly increase certification costs without a defined benefit.
 - This is a change in recommended direction from the 2018 report (implied as a rule change).
 - See Sections 3.1 & 3.2 for more information.

Summary of recommendations on SLP

076

2018 recommendation #2A: “it is proposed that the applicant should consider the following items for SLP structure: Minimization of environmental and accidental damage (i.e. consider protection, different materials, etc.)”

2020 recommendation (**Full WG consensus**)

- Modified 2018 recommendation to include additional information related to minimization of environmental damage (ED) and accidental damage (AD).
- Proposed changes to AC 25.571-1D, which are summarized as follows:

“The guidance should recommend that the applicant to perform a specific evaluation of environmental and accidental damage beyond that typically employed by the MSG-3 process. Protection should be added where feasible. Otherwise, if the visual inspections of the MSG-3 process are not sufficient to detect damage from AD and ED threats, special DTE based inspections are required.”
- See Sections 4.1.1 (AC 25.571-1D changes) & 4.2.2 (minimization of ED & AD) for more information.

2018 recommendation #2B: “it is proposed that the applicant should consider the following items for SLP structure ... Perform a fatigue test or complete fatigue analysis based on test to demonstrate an acceptable level of fatigue reliability”

2020 recommendation (**General WG consensus**^[1])

- Modified 2018 recommendation by adding information on fatigue testing and analysis.
- Proposed changes to AC 25.571-1D, which are summarized as follows:

“The guidance should recommend that the applicant perform a fatigue test, or complete fatigue analysis based on tests, to demonstrate a high level of fatigue reliability. The tests are intended to show that fatigue cracks do not form earlier than expected, or in locations not anticipated by the DTE. Fatigue test factors should address such key aspects as material scatter and the range of manufacturing quality.”
- ^[1]Achieved general consensus on guidance recommendation.
 - Agreed on including certain text on fatigue reliability (including definition of fatigue reliability) – significant achievement for WG
 - Did not fully agree on inclusion of illustrative figure showing relative reliability/robustness in guidance, but WG ultimately all agreed on final proposed text
- See Sections 4.1.1 (AC 25.571-1D changes), 4.2.1 (Reliability), & 4.2.3 (Fatigue Testing or Analysis Based On Testing) for more information.

2018 recommendation #2C: “it is proposed that the applicant should consider the following items for SLP structure ... Perform testing, or analysis based on testing, to demonstrate that the materials and stress levels chosen do indeed provide a controlled slow rate of crack propagation combined with high residual strength”⁰⁷⁸

2020 recommendation (**Full WG consensus**)

- Modified 2018 recommendation by adding information on demonstrating controlled rate of crack growth and revising AC 25.571-1D accordingly.
- Proposed changes to AC 25.571-1D, which are summarized as follows:
 - “The guidance should recommend that the applicant perform testing, or analysis based on testing, to demonstrate that the materials and stress levels chosen do indeed provide a controlled slow rate of crack propagation combined with appropriate residual strength. Specific testing should be performed to verify the assumptions in the analysis.”
- See Sections 4.1.1 (AC 25.571-1D changes) & 4.2.4 (Demonstrate Controlled Rate of Crack Growth) for more information.

2018 recommendation #2D: “it is proposed that the applicant should consider the following items for SLP structure ... Develop a manufacturing process control and tracking plan document”

2020 recommendation (**General WG consensus**^[1])

- Modified 2018 recommendation by adding information related to material and process controls and revising AC 25.571-1D accordingly.
- Proposed changes to AC 25.571-1D, which are summarized as follows:
“The guidance should outline the evaluation procedures to be applied to the material and process specifications of metallic structures. Key material and processing parameters should be defined in the material and process specifications approved under 25.603 and 25.605.”
- ^[1] WG decided that the final recommendation was generally agreeable
 - Some WG members stated that the recommended changes to AC 25.571-1D for manufacturing process controls did not emphasize distinction of SLP structures beyond all PSEs
 - WG agreed changes to guidance were necessary in general and integrated in the other proposed changes relative to reliability improvements (item 2B).
- See Sections 4.1.1 (AC 25.571-1D changes) & 4.2.5 (Manufacturing Process Controls) for more information.

2018 recommendation #3: Recommendation for delineation between integral MLP structure and SLP structure (and related challenges associated with that)

2020 recommendation

1. For integrally stiffened panels (ISP), demonstrate structure is fail-safe (**Full WG Consensus**).
 - If ISP cannot be demonstrated to be Fail Safe, then it should be considered SLP and subject to the four previously discussed considerations.
 - Even if it is fail-safe, some elements of the four considerations may also still be relevant as part of the damage tolerance evaluation (DTE) (and supported by test).
 2. The WG did not fully agree on what a fail-safe demonstration should include (**No WG Consensus**).
 - Fail safety demonstration needs to include adequate residual strength (cracks are readily detectable before becoming critical) **or** slow crack growth (7 members prefer this option).
 - Fail safety demonstration needs to include adequate residual strength **and** slow crack growth (5 members prefer this option).
 - Rationale is presented for both views to reader (FAA) in supporting further policymaking efforts.
- See Sections 3.1 (Rule Change), 3.2 (Rationale), & 4.2.6 (Integrally Stiffened/Monolithic Structures) for more information.

Other 2020 recommendations/proposals

- WG recommends using the term “Fail Safety” rather than “Structural Damage Capability.” SDC implies a certain ability to sustain damage – and is a relatively new term, while fail safety is better at describing desired attributes recommended in the report.
- Under the extended tasking on bonding, the WG intends to recommend that structural bonding not be used in SLP designs should and will reflect that idea in any guidance recommendations on structural bonding. Because the WG intends to recommend that no structural bonding be used in SLP designs (in pending report) the SLP report does not recommend explicit guidance change on this (will be addressed in pending report)

Cost and Benefit Analysis

WG does not recommend any rule change.

- Since the AC is considered one means of compliance, an applicant will need to decide how it wants to show compliance.
- However, the proposed changes to guidance material suggest the expectations associated with the rule, and so some estimate, from one OEM experience is included to show associated costs with the incremental changes proposed in AC 25.571-1D for SLP structure certification.

See Section 5 (Cost & Benefit Analysis) for more information.

DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT



Aviation Rulemaking Advisory Committee Task Notice (ADD ANNOUNCEMENT DATE)

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

SUMMARY: The FAA assigned ARAC a new task for transport category airplane designs. The task is to provide recommendations regarding the use of an alert when ground spoilers are not armed for landing. There is a history of landing incidents and accidents where the automatic ground spoilers were not armed. This notice informs the public of the new ARAC activity for the Avionics Systems Harmonization Working Group (ASHWG).

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.

There has been a history of landing incidents and accidents where the automatic ground spoilers were not armed, in addition to the subsequent reduction in wheel-braking effectiveness as well as drag reduction. This has been a significant contribution to runway overruns. One example occurred on April 26, 2011, when a Southwest Airlines Boeing 737-700 went off the end of the runway at Chicago Midway International Airport. This task is also related to NTSB safety recommendations following the December 29, 2010, American Airlines Flight 2253 runway overrun accident at Jackson Hole Airport, Wyoming:

- Require all operators of existing speedbrake-equipped transport-category airplanes to develop and incorporate training to specifically address recognition of a situation in which the speedbrakes do not deploy as expected after landing. (A-12-44)
- Require all newly type-certificated 14 *Code of Federal Regulations* Part 25 airplanes to have a clearly distinguishable and intelligible alert that warns pilots when the speedbrakes have not deployed during the landing roll. (A-12-45)

The FAA is tasking ARAC, through the Transport Airplane and Engine (TAE) Subcommittee, to advise on the use of an alert when ground spoilers are not armed for landing in light of these incidents and accidents.

On [ADD DATE], the FAA assigned these tasks to ARAC, which ARAC designated to the TAE Subcommittee Avionics Systems Harmonization Working Group. Participants of the existing Avionics Systems Harmonization Working Group will serve as members of the working group, reporting to ARAC through the TAE Subcommittee. The working group will provide advice and recommendations on the assigned task. The TAE Subcommittee will review and approve

submission of 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 Avionics Systems Harmonization Working Group will provide advice and recommendations to ARAC, through the TAE Subcommittee, in a report that addresses the following questions relative to new airplane designs. The report should provide rationale for the responses.

1. Are the existing industry standards or guidance material sufficient, or do you recommend any new or revised industry standards or guidance material to provide acceptable automatic ground spoiler alerts for the flightcrew in cases where the airplane is prepared to land (for example, when the airplane drops below an appropriate height above the runway), but the automatic ground spoilers are not armed? The recommendations should ensure there is enough flexibility to cope with potentially different aircraft designs.
2. Are the existing alerting standards in 14 CFR part 25 sufficient, or do you recommend changes to the existing alerting requirements?
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 landing without ground spoilers armed?
4. Is coordination necessary with other harmonization working groups? If yes, coordinate with that working group and report on that coordination.

The ASHWG will develop a report containing recommendations on the findings and results of the task 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 report should contain initial qualitative and quantitative costs and benefits for recommended actions.

SCHEDULE: The recommendation report should be submitted to the FAA for review and acceptance no later than 18 months from the first ASHWG meeting following assignment of these tasks.

WORKING GROUP ACTIVITY: The working group must comply with the procedures adopted by the ARAC and as follows:

1. Conduct a review and analysis of the assigned task 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 TAE Subcommittee.
3. Provide a status report at each TAE Subcommittee meeting.
4. Draft and submit the recommendation report based on the review and analysis of the assigned task.
5. Present the recommendation report at the TAE Subcommittee meeting.

PARTICIPATION IN THE WORKING GROUP: The ASHWG is composed of technical experts having an interest in the assigned task. A working group member need not be a member representative of ARAC. The FAA favors 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.)

Confidential Information

All final work products submitted to ARAC are public documents. Therefore, they 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 task. 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.

DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT - DRAFT

The Secretary of Transportation determined the formation and use of 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: Joe Jacobsen, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington, 98198; telephone (206) 231-3158; email joe.jacobsen@faa.gov.



Aviation Rulemaking Advisory Committee Task Notice
(ADD ANNOUNCEMENT DATE)

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

SUMMARY: The FAA assigned ARAC a new task for transport category airplane designs. The task is to provide recommendations regarding new or updated standards and guidance material for transport airplane performance and handling characteristics. This notice informs the public of the new ARAC activity for the Flight Test Harmonization Working Group.

BACKGROUND: The Federal Advisory Committee Act (5 U.S.C., Appendix 2) governs ARAC activities. The FAA established 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.

In March 2013, the FAA tasked ARAC to provide recommendations regarding new or updated standards and guidance material related to the performance and handling characteristics of transport category airplanes. Due to the number and complexity of topic areas under consideration, ARAC divided the tasking into phases. In phase 1, the Flight Test Harmonization Working Group prioritized 30 potential topic areas for further consideration in 3 follow-on phases. Follow-on taskings for phases 2 and 3 addressed the following topics:

- Fly-by-wire flight controls
- Wet runway stopping performance
- Runway excursion hazard classification
- Stall speed in ground effect
- Steep approach
- Flight test methods used to determine maximum tailwind and crosswind capability
- Susceptibility to pilot-induced oscillations/airplane-pilot-coupling (PIO/APC)
- Assessing handling qualities
- High speed flight envelope protection

At the end of phase 3, the Flight Test Harmonization Working Group developed recommendations for the next highest priority topic areas from phase 1—yaw control below velocity minimum control on the ground (V_{mcg}), return to land, go-around performance, and follow-on work on high-speed flight envelope protection.

On [Add Date], the FAA assigned this task to ARAC, which ARAC designated to the Transport Airplane and Engine (TAE) Subcommittee Flight Test Harmonization Working Group. Participants of the existing Flight Test Harmonization Working Group will serve as members of

the work group, reporting to ARAC through the TAE Subcommittee. The working group will provide advice and recommendations on the assigned task. The TAE Subcommittee will review and approve submission of 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 Flight Test Harmonization Working Group will provide advice and recommendations to the ARAC, through the TAE Subcommittee, on the most effective guidance or standards as specified in the following topic areas.

1. Handling Characteristics

Advisory Circular (AC) 25-7D, *Flight Test Guide for Certification of Transport Category Airplanes*, dated May 4, 2018, contains a handling-quality rating method for systematically determining appropriate minimum handling-quality requirements and evaluating those handling qualities for conditions affecting an airplane's flying qualities. The handling-quality rating method in the AC is not universally accepted within industry nor is it accepted by the European Union Aviation Safety Agency (EASA). The Flight Test Harmonization Working Group will review and recommend a universally acceptable method to supplement or replace the handling-quality rating method currently in the AC. This is a follow-on to the work on this topic in the phase 3 task, with the addition of subject matter experts from system safety to ensure cross-discipline harmonization.

2. Takeoff and Landing Performance

The Flight Test Harmonization Working Group will recommend regulatory requirements and/or associated guidance material for the following areas in order to standardize as much as possible.

- a. Evaluate the Takeoff and Landing Performance Assessment (TALPA) methodology for determining takeoff and time of arrival landing performance on runways degraded by excess water or other frozen contamination, in an effort to harmonize with recent changes by other regulatory authorities and International Civil Aviation Organization (ICAO).
- b. Assess landing distance on dry runways in order to provide consistency with the new wet runway recommendation methodology, proposed in phase 2, and TALPA implementation.
- c. Assess narrow runway certification requirements for takeoff and landing. The FAA methodology for assessing the effects of narrow runways on determination of minimum control speeds and crosswind guidelines differs from that of other authorities. This task seeks to harmonize methodologies.

- d. Assess de-rated thrust procedures and performance in the areas where the FAA has different requirements from other regulatory authorities, especially as related to operations on contaminated runways.
- e. Assess landing performance in abnormal configurations where EASA has additional requirements for performance information in airplane flight manuals.
3. Develop a report containing recommendations on the findings and results of the task as outlined previously.
 - a. The recommendation report should document both majority and dissenting positions on the findings and the rationale for each position.
 - b. The report should document any disagreements, including the rationale for each position and the reasons for the disagreement.

SCHEDULE: ARAC will submit recommendations to the FAA in phases, according to the following schedule.

This tasking notice requires three recommendation reports.

- The initial recommendation report for items 2a and 2b is due to the FAA for review and acceptance no later than 18 months from the date that ARAC accepted the tasking.
- The recommendation report for item 2c is due to the FAA for review and acceptance no later than 24 months from the date that ARAC accepted the tasking.
- The recommendation report for all other items is due to the FAA for review and acceptance no later than 36 months from the date that ARAC accepted the tasking.

WORKING GROUP ACTIVITY: The 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 TAE Subcommittee.
3. Provide a status report at each TAE Subcommittee 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 TAE Subcommittee meeting.
6. Subcommittees and working groups should not provide advice or work products directly to the FAA. They should report all of their recommendations and advice to the full ARAC for deliberation and discussion. The FAA only accepts recommendation reports from ARAC.

PARTICIPATION IN THE WORKING GROUP: The Flight Test Harmonization Working Group is composed of technical experts having an interest in the assigned task. A working group member need not be a member representative of ARAC. The FAA favors a wide range of stakeholders to ensure all aspects of the tasks inform 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.)

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 task. 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. Any Confidential Information shared with the FAA representative on a working and/or task groups 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.

DRAFT – DRAFT – DRAFT – DRAFT – DRAFT – DRAFT - DRAFT

FOR FURTHER INFORMATION CONTACT: Joe Jacobsen, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington, 98198; telephone (206) 231-3158; email joe.jacobsen@faa.gov.