



AVIATION RULEMAKING ADVISORY COMMITTEE (ARAC) MEETING

March 21, 2024 ***1:00 PM – 4:00 PM

- Welcome and Introductions
- Federal Advisory Committee Act (FACA) Statement
- Ratification of Minutes
- Status Updates and Recommendation Reports
 - Airman Certification System Working Group – Mr. David Oord
 - Training Standardization Working Group – Mr. Brian Koester
 - ❖ Response to FAA’s Request for Additional Information for the CE-560XL and HS-125 Standardized Curricula
 - ❖ Revised Standardized Curriculum for CE-560XL and HS-125 Aircraft Recommendations Reports
 - Part 65.101 Repairman Certificate Portability Working Group (Present Recommendation Report to ARAC: September 2024) – Ms. Sarah MacLeod
 - Transport Airplane and Engine (TAE) Subcommittee – Mr. Keith Morgan
 - Flight Test Harmonization Working Group – Mr. Brian P. Lee
 - ❖ Phase 4/Topic 22- Landing in Abnormal Configurations (Present Recommendation Report to ARAC: June 2024)
 - ❖ Phase 4/ Topic 26- Derate Thrust Procedures (Present Recommendation Report to ARAC: June 2024)
 - Ice Crystals Icing Working Group – Ms. Melissa Bravin and Mr. Allan van de Wall
 - Engine and Powerplant Interface Working Group - Melissa Bravin & Douglas Beneteau
- FAA Updates
 - Regulatory Activities
 - Rulemaking Process
- Fiscal Year 2024 Remaining Meeting Dates
 - Thursday, June 20, 2024

- Thursday, September 12, 2024

AVIATION RULEMAKING ADVISORY COMMITTEE

DRAFT RECORD OF MEETING

MEETING DATE: December 14, 2023

MEETING TIME: 1:00 pm – 4:00 pm ET

LOCATION: The Aviation Rulemaking Advisory Committee (ARAC) held a hybrid meeting in person at the FAA Headquarters at 800 Independence Ave, SW, Washington, DC, 20591, in room Conference Room 7AB, and virtually on Zoom.

PUBLIC ANNOUNCEMENT: The Federal Aviation Administration (FAA) provided notice to the public of this ARAC meeting in a *Federal Register* notice published on November 16, 2023 (88 FR 78807).

ATTENDEES:

Committee Members	
Ambrose Clay	National Organization to Insure a Sound Controlled Environment (N.O.I.S.E.)
Chris Martino	Helicopter Association International (HAI)
Chris Witkowski	Association of Flight Attendants (AFA)
Daniel Friedenjohn	Embry-Riddle Aeronautical University
David Oord	Wisk, <i>ARAC Chair</i>
Doug Carr	NBAA (National Business Aviation Association)
Gail Dunham	National Air Disaster Alliance/Foundation (NADA/F)
Justin Barkowski	American Association of Airport Executives (AAAE)
Keith Morgan (In-person)	Pratt & Whitney <i>Chair, Transport Airplane and Engine (TAE) Subcommittee</i>
Larry Rooney	Coalition of Airline Pilots Association (CAPA)
Michelle Betcher	Airline Dispatchers Federation (ADF)
Randy Kenagy	Air Line Pilots Association (ALPA)
Ric Peri	Aircraft Electronics Association (AEA)

	<i>Co-Chair, Part 145 Working Group</i>
Sarah MacLeod	Aeronautical Repair Station Association (ARSA)
Tom Charpentier	Experimental Aircraft Association (EAA)
Walter Desrosier	General Aviation Manufacturers Association (GAMA)
Non- Members	
Andrew Appelbaum	FlyersRights
Brian Koester (In-person)	National Business Aviation Association (NBAA) <i>TSWG Chair</i>
Brian Lee	Boeing Company <i>Flight Test Harmonization Working Group Chair</i>
Darrell Pennington	ALPA
Grace Drew	Southwest Airlines
Jim Stieve	Southwest Airlines
John Egan	Southwest Airlines
Katie Foreman	Private Citizen
Ludovic Aron (In-person)	European Aviation Safety Agency (EASA)
Maryanne DeMarco	CAPA
Melissa Bravin	Boeing <i>Ice Crystal Icing Working Group Co-Chair</i>
FAA Staff	
Aliah Duckett (In-person)	Office of Rulemaking (ARM)
Brandon Roberts (In-person)	ARM, <i>Designated Federal Officer</i>
Bryan Davis	Flight Standards Service (AFS)
George Padalec	Aviation Safety (AVS)
James Sapoznik	AFS
Jeffrey Vincent	Unmanned Aircraft Systems (UAS)
Jim Crotty (In-Person)	ARM
Joshua Tarkington	AVS
Lakisha Pearson	ARM

Laura Megan-Posch	Office of the Chief Counsel (AGC)
Michelle Ferritto (In-person)	ARM
Paul Cloutier	AFS
Puja Sardana (In-person)	FAA Contractor
Robert Ganley	Aircraft Certification Service (AIR)
Syerra Joyner (In-person)	ARM – FAA Intern
Thuy Cooper (In-person)	ARM
Timothy Adams	AFS
Tyeshia Roberson-Curtis (In-person)	ARM
Yvette Rose (In-person)	ARM

Welcome and Introduction

Mr. Brandon Roberts, Designated Federal Officer (DFO), called the meeting to order at 1:01 pm ET. He reminded everyone that the meeting was being recorded, and he reviewed logistics for the hybrid meeting.

Mr. Roberts read the required Federal Advisory Committee Act (FACA) statement (Title 5 U.S.C. §§ 1001). He stated that members of the public may address ARAC with permission of the Chair, Mr. David Oord.

Mr. Oord welcomed everyone to the meeting. He noted two changes in ARAC membership, stating that Ms. Yvette Rose is no longer an ARAC member and now serves as the Deputy Executive Director of the Office of Rulemaking (ARM-2), and Mr. Ambrose Clay has resigned from ARAC, effective December 31, 2023. He thanked and congratulated both.

Ratification of Minutes

Mr. Oord asked for a motion to accept the September 21, 2023¹, ARAC meeting minutes. Mr. Chris Martino motioned to accept the minutes, and Ms. Gail Dunham seconded the motion.

All ARAC members voted in favor of ratifying the minutes.

Status Reports/Recommendation Reports

A copy of the December 14, 2023, meeting packet, which includes working group presentations, can be found at:
https://www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information/documentID/6084.

Airman Certification Systems Working Group (ACSWG)

Mr. Oord, ACSWG Chair, provided the working group's status report. Mr. Oord noted that there have been no changes to ACSWG membership, and the tasking has remained the same. He noted that the group is in a holding pattern until the FAA finalizes the Airman Certification Standards and Practical Test Standards for Airmen; Incorporation by Reference (IBR) rulemaking. He noted that the Fall 2023 Unified Agenda showed a final rule publication date in November 2023. The group is still waiting on publication of the final rule.

¹ The September 21, 2023, meeting minutes can be found at:
https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ARAC_December_2023_Meeting-Packet_final.pdf

Mr. Ric Peri asked about FAA's proposed revision to Advisory Circular (AC) 65-23A, to include the IBR of the ACS to § 65.107 and §65.109, the Certification for Light-Sport Aircraft (LSA) Repairmen for Inspection and Maintenance. He explained that FAA proposed changes related to the inspection and maintenance of LSA repairmen stations. Mr. Peri implied that the maintenance ACS has little overlap for LSA and asked if this issue would require an additional tasking to adequately address those aircraft. Mr. Oord stated that ARAC can consult with the FAA on the need for additional taskings once the final rule publishes.

Training Standardization Working Group (TSWG)

Mr. Oord reported that FAA requested clarification on the ARAC Training Standardization Working Group Recommendation Report (CE-560XL and HS-125 curricula) accepted by the committee at the September 2023 meeting.² The FAA reviewed the report and found multiple instances of missing or incomplete information that is necessary to meet regulatory requirements.

Mr. Oord forwarded the request to the TSWG Chair, Mr. Brian Koester, to address FAA's questions and present responses at the March ARAC meeting. Mr. Koester confirmed the group received the request and will take necessary action.

Mr. Koester provided the TSWG's status report update. He described the working group's progress and workflow, highlighting some minor changes that will be adjusted. He noted a change in membership and said the working group may produce ad hoc deliverables for consideration by ARAC as necessary. He noted that the TSWG is meeting to flush out some nuances in the previously submitted recommendations report and noted that all corrections would be coordinated with the working group.

Mr. Koester said that he hopes to have recommendations for King Air 300 and for the Challenger 300 submitted by June 2024. He explained that the working group experienced issues finding leadership and participation for those action teams. He noted that the proposed timeline may be adjusted if TWSG is unable to secure leadership for the Challenger action team.

Part 65.101 Repairman Certificate Portability Working Group

Mr. Ric Peri noted the minor changes in the working group's membership and reviewed its tasking; to review the portability of Repairmen certificates. Mr. Peri reviewed the schedule, including virtual and face-to-face meetings. He noted that the working group submitted their preliminary report in September 2023 and the tasking states that the final report is due 12 months later. He asked for clarification on the due date of the final report. Mr. Roberts deferred to Mr. Oord, who stated that the working group may submit

² The FAA posted the request for additional information on its committee webpage: [https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/\(FAA%20Request%20for%20Clarification\)_Email-TSWG.pdf](https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/(FAA%20Request%20for%20Clarification)_Email-TSWG.pdf).

the report in September 2024. Mr. Perry noted the final report is on target for the third quarter of 2024.

Transport Airplane and Engine (TAE) Subcommittee

Mr. Keith Morgan, the TAE Subcommittee Chair, provided the TAE Subcommittee status report update. He reviewed membership and stated that there are currently three active working groups: Flight Test Harmonization (FTHWG), Ice Crystal Icing (ICIWG), and the newly established Engine and Powerplant Interface (EPIWG). Mr. Morgan stated that taskings of the Avionics Systems and Metallic Composite Structures working groups are complete. He reviewed the meeting schedule, noting that the subcommittee meets virtually and in-person.

Flight Test Harmonization Working Group (FTHWG)

Mr. Morgan stated that there are no changes in the overall membership and that the working group is in phase 4 of the work and has begun planning for phase 5. Areas of concern for ARAC included noting that the European Union Aviation Safety Agency (EASA) was unable to support the group due to budgetary restrictions. However, EASA has agreed to support the December working group meeting with a technical representative and EASA has demonstrated a willingness to help. Also, Transport Canada has raised an issue with its resources ability to support. Mr. Morgan noted the importance of having international authorities participate on the working group.

Ice Crystal Icing Working Group (ICIWG)

Mr. Morgan noted the changes in ICIWG membership and reported the working group will submit the final recommendations report at the end 2024.

Engine and Powerplant Interface (EPIWG)

Mr. Morgan did not have an update for the EPIWG other than noting that the solicitation period for members closed on August 11, 2023, and the group plans to have its first meeting in January 2024.

Other Business and FAA Updates

FAA Personnel Updates

Mr. Roberts noted several FAA personnel changes, welcoming Ms. Yvette Rose, former ARAC member, as the new Deputy Executive Director of the Office of Rulemaking. He also noted Michael Whitaker is the new FAA Administrator, with Katie Thomson serving as the Deputy Administrator and Ed Bolton as his Chief of Staff. Mr. Roberts also noted the following Office of Aviation Safety personnel changes:

- Larry Fields - Executive Director for Flight Standards Service (AFX-1).
- Wes Mooty - Deputy Executive Director for Flight Standards Service A (AFX-2A).
- Robert Ruiz - Deputy Executive Director for Flight Standards Service B (AFX-2B).
- Nick Fuller - Executive Director of Air Traffic Safety Oversight Service (AOV-1).

Regulatory Updates

Mr. Roberts highlighted the following rulemaking projects included in the Fall Unified Agenda, which published on December 6, 2023.

- SMS Final Rule – scheduled to publish in July 2024.
- System Safety Assessment Final Rule – scheduled to publish in May 2024.
- Integration of Powered-Lift: Pilot Certification and Operations; Miscellaneous Amendments Related to Rotorcraft and Airplanes Notice of Proposed Rulemakings (NPRM); comment period closed on August 14, 2023; FAA is currently analyzing comments.
- Modernization of Special Airworthiness Certification (MOSAIC) NPRM: FAA granted request to extend the comment period until January 22, 2024.

Mr. Roberts reported that one final rule and six NPRMs have published since the September 2023 ARAC meeting.

- Final Rule
 - Removal of Prohibition Against Certain Flights in Specified Areas of the Dnipro Flight Information Region; published October 26, 2023.
- NPRM
 - Update and Clarification of the Passenger Facility Charge Regulations - published September 27, 2023; comment period closed November 27, 2023.
 - Removal of Expiration Date on Flight Instructor Certificate; Additional Qualification Requirements to Train Initial Flight Instructor Applicants - published November 1, 2023; comment period closed December 1, 2023.
 - Robinson Helicopter R-22 and R-44 Special Training and Experience Requirements - published October 17, 2023; comments due December 18, 2023.
 - Mitigation Methods for Launch Vehicle Upper Stages on the Creation of Orbital Debris - published September 26, 2023, comments due December 26, 2023.
 - Use of Supplemental Restraint Systems - published November 21, 2023; comments due January 22, 2024.

Mr. Roberts stated that rulemakings are designated as either significant or non-significant by the Office of Information and Regulatory Affairs (OIRA) and that designation can affect timelines. Mr. Rob Hackman asked the FAA to elaborate on the difference of significant and non-significant designations, which Mr. Roberts provided.

Mr. Doug Carr asked about the update on foreign repair station drug and alcohol testing. He noted that recommendations were submitted over decade ago and that it is concerning that rulemaking is coming out so much later than the submission of the original work. He stated that the people who created those recommendations may not even hold the same position on them based on how things have changed in this timeframe. Ms. Sarah McLeod stated that this rulemaking push is likely driven by Congress. She noted that she would guess 2/3 of rulemaking is driven by congressional mandate. Mr. Roberts stated that the agency is making a large effort to clean out any older pending rulemaking and confirmed that sometimes, priorities of rulemaking action are driven by congressional mandate.

Mr. Peri asked for a status update on the Unmanned Aircraft Systems (UAS) beyond visual light of sight (part 108) rulemaking. Mr. Roberts stated the Fall Unified Agenda shows the NPRM publishing in August 2024. He noted this timeline may be affected by the timing of FAA reauthorization.

Mr. Peri expressed concerned about putting non-certificated drones under part 22. Mr. Walter Desrosier noted that under MOSIAC, there is a consideration for a future amendment to include UAS. Mr. Peri expressed concern about landing stations and the effect they may have on LSAs. Mr. Roberts noted that there is no active portfolio for landing stations for UAS, and that is not currently included in the MOSAIC rulemaking.

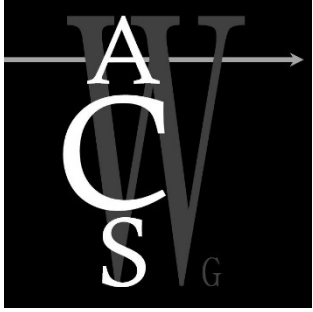
Mr. Roberts thanked Mr. Clay for his participation on ARAC through the years and expressed his appreciation to all the members for the work they do. Mr. Clay thanked the ARAC and stated that it has been a great journey. Mr. Oord thanked Mr. Clay and noted that the meetings are public, and he is welcome to attend in the future.

ARAC Membership Update

Mr. Roberts noted that the Department of Transportation's White House Liaison is vetting the ARAC membership packet.

Adjournment

Mr. Oord concluded the meeting at 2:16 pm.



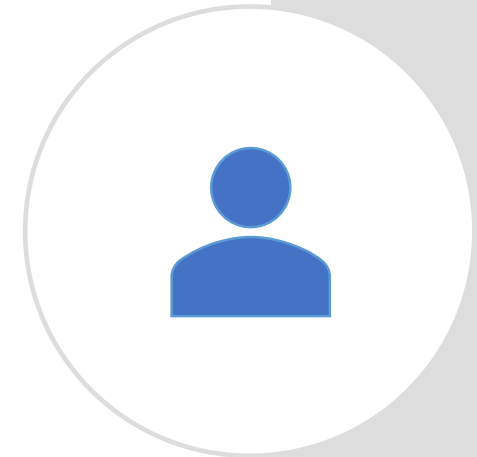
Airman Certification System Working Group Status Report to the Aviation Rulemaking Advisory Committee

David Oord
Working Group Chair

March, 2024

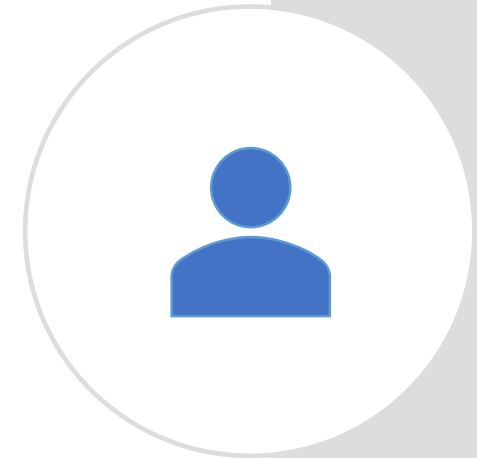
MEMBERS of ACSWG - INDUSTRY

- David Oord, Wisk
- Paul Alp, Independent
- Cindy Brickner, SSA
- Paul Cairns, Independent
- Kevin Comstock, ALPA
- Mariellen Couppee, Independent
- Eric Crump, Aerospace Center for Excellence
- David Dagenais, Independent
- Maryanne DeMarco, CAPA
- Rick Durden, Independent
- David Earl, Flight Safety
- Tom Gunnarson, Wisk
- 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, A4A
- John McWhinney, King Schools
- Crystal Maguire, ATEC
- Nick Mayhew, CAE
- Jimmy Rollison, Independent
- Mary Schu, Mary Schu Aviation
- Roger Sharp, Independent
- Jackie Spanitz, ASA
- Burt Stevens, CFI Care
- Robert Stewart, Independent
- Tim Tucker, Robinson
- Donna Wilt, SAFE
- Roger Woods, Leonardo
- Philipp Wynands, Metro Aviation



MEMBERS of ACSWG – FAA

- Barbara Adams
- Bill Anderson
- James Ciccone
- Bryan Davis
- Joel Dickinson
- Mike Duffy
- Troy Fields
- Ramona Fillmore
- Adam Giraldes
- Laurin J. Kaasa
- Jeffrey Kerr
- Mike Millard
- Anne Moore
- Kevin Morgan
- Margaret Morrison
- Katie Patrick
- Andrew Pierce
- Jason Smith
- Shelly Waddell Smith
- Robert Terry
- Chris Thomas
- Matt Waldrop
- Stephanie Williams
- Bill Witzig



SUMMARY OF TASKING

- Provide recommendations regarding standards, training guidance, test management, and reference materials for airman certification purposes.
- Continuation of Pilot, 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 report TBD
 - Unable to complete due to incomplete taskings and restrictions associated with IBR and lack of defined FAA processes

SCHEDULE

- **2023 Meetings –**
 - April 18 (virtual)
 - September 19 (virtual)
- **2024 Meetings – TBD**

STATUS OF TASKING

- Progress on Standards, Guidance, and Test Management on hold
 - Publication of completed ACS documents waiting on Incorporation by Reference (IBR) rulemaking.
 - Handbook revisions pending defined FAA processes.
 - Test updates pending defined FAA processes.
- Data Analysis workgroup – formed in response to Call to Action Final Report
 - Means for ongoing data evaluation based on ACS codes, knowledge test reports, and practical exam reports for the purpose of ongoing improvement and collaboration between training and testing and to support emerging technologies.
 - FAA completed final report; implementation of recommendations pending defined FAA processes.
- PTS to ACS Prioritization
 - Establishing sub-groups of volunteers to work through list.
 - Mechanic ACS subgroup to be established and begin work once FAA can provide their internal processes.

§ 65.101 Repairman Certificate Portability
Working Group
Status Report to the
Aviation Rulemaking Advisory Committee

Ric Peri

Working Group Chair

March 2024

MEMBERS of Repairman Portability WG

- Working Group membership:
 - Ric Peri – Aircraft Electronics Association (Chair)
 - Sarah MacLeod – Aeronautical Repair Station Association
 - Jeff King – Duncan Aviation
 - Ben Wigton – Garmin International
 - Martin Segraves – Texas State Technical College **
 - David Dowen -- Aviation Technical Services
 - Fred Dyen – University of Alaska Anchorage
- FAA participants:
 - Bryan Davis – AFS-350

The Task:

- The Repairman Certificate Portability Working Group will provide advice and recommendations to ARAC on the most effective ways to allow a repairman certificate issued under § 65.101 to be more portable from one employing certificate holder to another.
- The Working Group will review all relevant materials to assist in achieving their objective.

Schedule:

- This tasking notice requires two reports.
 - The preliminary report is due to the FAA no later than 12 months after the first working group meeting.
(Completed)
 - The final recommendation report is due to the FAA no later than 12 months after ARAC forwards the preliminary report to the FAA.
On target for 3rd Qtr 2024.

Meeting Schedule:

- Through completion of the task:
 - Bi-monthly – Virtual
 - Bi-monthly – face to face.

Questions?

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

Keith R. Morgan
Subcommittee Chair

21 MARCH 2024

Members of the Transport Aircraft and Engines Subcommittee

Pratt & Whitney

ALPA

A4A

Airbus

Boeing

GAMA

Embraer

SRCA

FAA

EASA

TCCA

TAE Meeting Schedule

- 2024 Meetings
 - January 23
 - April 23 (face-to-face Seattle)
 - July 23
 - October 22 (face-to-face Washington DC)

Active Working Groups

- Flight Test Harmonization (FTHWG)
- Engine Ice Crystal Icing (ICIWG)
- Engine Powerplant Interface (EPIWG)

Look Ahead Report Submittal Schedule to ARAC

June 2024

- FTHWG Landing Distance for Abnormal Configurations
- FTHWG Reduced/Derated Thrust Takeoff Procedures

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

23 January, 2024

MEMBERS of

Flight Test Harmonization Working Group Phase 4

Authorities	OEM's			Observers
FAA Joe Prickett Troy Brown (sponsor)	Airbus Philippe Genissel + SME's	Embraer Murilo Ribeiro + SME's	ATR Matthieu Ollivier Thierry Pauliard +SME's	JCAB (Japan) Shinsuke Yamauchi
				CAAI (Israel) Yshmael Bettoun
EASA Lorenzo Prieto Saiz	Boeing Brian Lee (Acting) Ryan Westbrook + SME's	Gulfstream Mike Watson +SME's	Airbus Canada Dimitri Cuesta +SME's	Norwegian Airlines John Lande
				Operations SME 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 (CEV) Matthieu Buisson
				Operators
ANAC (Brazil) Marcos Carvalho	Dassault Philippe Eichel +SME's			ALPA John Cinnamon Brandon Miller

Status of Working Group Activities

- Regular Meetings
 - Quarterly face-to-face meeting (two in Europe, two in North America)
 - Weekly scheduled telecons
- Additional working meetings
 - Subteams of FAME are meeting regularly (IN ADDITION) in support of the larger group
 - Effects of Environmental Factors
 - Flight Envelope for assessing failures

STATUS OF TASKING

- Work is continuing on 4 topics:
 - FAME (how to deal with failures affecting Handling Qualities)
 - Narrow Runway Certification: Expect interim report to ARAC in March
 - Reduced/Derated Thrust Takeoff Procedures (Discussions have begun)
 - Landing Distance for Abnormal Configurations (Discussions have begun)
- ASHWG:
 - Low Energy Alerting
 - Proposal for no action: the two reports are not incompatible, Voting via e-mail
- Leadership planning for Phase 5 tasking Complete
 - FAA sponsor is working on tasking statement

Phase 4 FTHWG Topic Technical Status (1 of 2)⁰³³

- Topic #16 Failure Assessment Methodology & Evaluation (FAME)
 - Now fully engaged (including good interaction with System Safety SME's) making progress
 - EASA is mostly back with us
 - 2 sub-teams chartered and meeting regularly
 - Recommend Consistent Flight Envelope for failure evaluations
 - Recommend Consistent Environmental Conditions for failure evaluations
 - Interactions with CATA regarding 25.672: Questions have gone both directions, on-going
 - Team expects to not finish by June, 2024, propose to carry into Phase 5. Team wants this to be done right
- Topic # 21 Narrow runway operations
 - Team has converged on the definition a “baseline” runway, and the “regulatory hook” for declaration of runway width
 - Interim Report for consideration at this meeting
 - Documents discussions and decisions thus far
 - Expect to return to this topic in Phase 5

Phase 4 FTHWG Topic Technical Status (2 of 2)

- Topic # 22 Landing in Abnormal Configurations has begun
 - Progressing on schedule
 - Team anticipates
 - TAE in April, 2024
 - ARAC in June, 2024
- Topic # 26 Derate Thrust Procedures has begun
 - Controversy on the horizon
 - Despite currently requested by some authorities, should throttle push after engine failure with derate (and with adjustment of minimum control speeds), be required to be demonstrated in a future harmonized Flight regulation when it constitutes a violation of an AFM procedure
 - Additional analyses under way by OEM's
 - Team is **still** targeting
 - TAE in April, 2024
 - ARAC in June, 2024

Phase 5 Planning

- Planning for Phase 5 complete
 - Includes
 - Topics left from FAA list in Phase 1
 - Emergent issues since 2012
 - Drafting of Tasking Statement underway (coordinated with Office of Rulemaking)
 - Preliminary Schedule (30 months starting June, 2024)

		2024		2025				2026				
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
16	FAME	X	X	X	X	X	X	X	X			
21	Narrow Runway					X	X	X	X	X		
42	Use of Simulation for Certification					X	X	X	X	X	X	
24	HUD/Autoland Landing Distance	X	X	X	X	X	X	X	X			
	Vmcl Limit for Approach and											
34	Landing	X	X	X	X							
	Stall Identification/Protection											
38	Systems									X	X	X
23	⁰⁰⁰⁰³⁵ Tail Clearance during Cert Tests	X	X	X	X							

AREAS for ARAC CONSIDERATION

- We would like to continue to encourage Authorities to support this activity across necessary disciplines (as other members are)

Ice Crystal Icing Working Group Status Report Transport Aircraft and Engines Subcommittee

Melissa Bravin
Allan van de Wall
Working Group Co-Chairs

22 January 2024

ICI Working Group Membership

No Change

Member Name	Organization	Role
Philip Haberlen	(FAA-ANE Standards) <u>FAA Representative</u>	FAA Representative
Melissa Bravin	Boeing Commercial Airplanes	WG Co-Chair – Airplane – P
Allan van de Wall	GE Aviation	WG Co-Chair – Engine – P
Aaron Cusher	Collins	Other – P
Adam Malone	Boeing	Consultant
Alberto Ramon	FAA	Non-voting role
Ashlie Flegel	NASA	Consultant
Bob Hettman	FAA	Non-voting role
Dayne Olmstead	Air Line Pilots Association	Other – P
Daijiro Kawakami	JCAB	Non-voting role
Dan Fuleki	National Research Council Canada	Consultant
David Dischinger	Honeywell	Engine – P
David Johns	TCCA-probes	Non-voting role
Doug Bryant	FAA	Non-voting role
Eric Duvivier	EASA	Non-voting role
Eric Fleurent-Wilson	TCCA-engines	Non-voting role
Fausto Enokibara	ANAC	Non-voting role
Jeanne Mason	FAA	Consultant
Jim Loebig	Rolls-Royce	Engine – P

Member Name	Organization	Role
John Fisher	FAA	Non-voting role
Jon Saint-Jacques	A4A/Atlas Air	Other – P
Josh Larson	Air Line Pilots Association	Other - P
Julien Delanoy	EASA	Non-voting role
Jun Izumi	JCAB	Non-voting role
Keith Morgan	Pratt & Whitney	ARAC Representative
Keith Wegehaupt	Honeywell	Engine – P
Mauricio Caio Rosin	TCCA	Non-voting role
Philip Chow	FAA	Consultant
Pierre-Emmanuel Arnaud	Airbus	Airplane – P
Rajeev Atluri	AeroSonic	Other - P
Roberto Marrano	Pratt & Whitney Canada	Engine – P
Roxanne Bochar	Pratt & Whitney	Engine – P
Shengfang Liao	Pratt & Whitney East Hartford	Engine – P
Shoichi Yamasaki	JCAB	Non-voting role
Takuya Mikami	JCAB	Non-voting role
Terry Tritz	Boeing	Consultant
Tom Dwier	Textron Aviation	Airplane – P
Tom Ratvasky	NASA	Consultant
Walter Strapp	Met Analytics Inc.	Consultant

Tasking Summary

No Change

- 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. 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.

2024 Schedule

- ✓ F2F meeting planned for 6-8 February @ Honeywell, Phoenix, AZ
- Other F2F meetings subject to need
- Monthly telecons planned for 2024

STATUS OF TASKING – 1 / 2

1. **COMPLETE** - Evaluate recent ICI environment data obtained from both government and industry to determine whether flight testing data supports the existing Appendix D envelope.
2. **IN-WORK** - Evaluate the results carried out in Task 1 and recommend changes to the existing Appendix D envelope, as required.
 - a) **Joint Probability Study IN-WORK** - 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).
 - **UPDATES:**
 - **Awaiting completion of FAA contract in work with NASA Langley (since mid-2023)**
 - **Current prediction is that joint probability study projected to complete in by end of 2024**
3. **COMPLETE** - 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. **COMPLETE** - 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

STATUS OF TASKING – 2 / 2

5. **COMPLETE -** 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. **COMPLETE -** Recommend changes to the Advisory Circular AC20-147a, Turbojet, Turboprop, Turboshaft and Turbofan Engine Induction System Icing and Ice Ingestion, based on Task 1 through 5 results.
7. **COMPLETE -** Assist the FAA in determining the initial qualitative and quantitative costs, and benefits that may result from the working group's recommendations.
8. **FINAL REPORT IN-WORK -** 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.

AREAS of ARAC CONSIDERATION

- None

Engine Powerplant Interface Working Group Status Report Transport Aircraft and Engines Subcommittee

Melissa Bravin
Doug Beneteau
Working Group Co-Chairs

22 January 2024

EPIWG Introduction

- The EPIWG will provide advice and recommendations to the ARAC on the most effective ways to resolve regulatory and guidance gaps and conflicts between part 33 and part 25. EPIWG recommendations should maximize harmonization of airworthiness authority regulations and guidance to the extent practicable.

EPIWG Working Group Membership

Name	Organization	Role	Voting Member
Rob Esteve	PW		Yes
Doug Marchese	ALPA		Yes
Pierre-Emmanuel Arnaud	Airbus		Yes
Philippe Vigarios	Airbus		Yes
Dominique Bernard Tosolini	Safran		Yes
Doug Beneteau	GE	Co-Chair	Yes
David Berger	GE		Yes
Marco Fraternale	Leonardo Helicopters (Italy)		Yes
Ian Morris	Leonardo Helicopters (Yeovil)		Yes
Michael Dwight Danielson	Bombardier		Yes
James Barter	Bombardier		Yes
Melissa Bravin	Boeing	Co-Chair	Yes
Dylan Welsh	Boeing		Yes
Allison Bassett	Boeing		Yes
Maria Fernanda Dalla Rosa	Embraer		Yes
Thomas Andrew Rothermel	Gulfstream		Yes

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Name	Organization	Role	Voting Member
Federica Musella	Rolls-Royce		Yes
Peter Turyk	PWC		Yes
Philippe Conchon	Dassault		Yes
Shawna Greiner	Honeywell Aerospace		Yes
Nathalie Goudin	ATR		Yes
Alan Strom	FAA AIR-62A	FAA Representative	No
Tim Mouzakis	FAA AIR-625		No
Jeff Stillinger	FAA AIR-625		No
Doug Bryant	FAA AIR-625		No
Brian Kierstead	FAA AIR-625		No
Deepak Kamath	FAA AIR-625		No
Phil Dang	FAA AIR-625		No
Philippe Hemeury	EASA		No
Angus Abrams	EASA		No
Marcelo Saito	ANAC		No
Roop Dhaliwal	TCCA		No
Grant Taylor	TCCA		No

Tasking Summary

- a) Rotor Blade Fragments: Propose revisions and new data reporting requirements under § 33.19 and 33.94 and b) guidance for compliance with part 25 to ensure that engine containment test data can be properly evaluated at the aircraft level. This task would include both airplane and engine recommendations to completely address the current policy gaps regarding rotor burst.
- b) Function & Reliability Testing: Review 14 CFR part 33 to determine how it supports the engine function and reliability flight test requirements of 14 CFR § 21.35(b)(2) and (f). If needed, propose amendments to the relevant regulations or guidance.
- c) Engine Restart/Relight: Provide recommendations to resolve part 33 and part 25 regulatory or guidance gaps, or conflicts with respect to rapid restart/high power fuel cuts and quick windmill relight requirements.
- d) Inhibition of engine protection systems used to comply with part 33: Address if and when part 25 aircraft systems should be able to deliberately inhibit the operation of engine systems used to meet part 33 safety requirements (e.g., software used as a means of compliance to prevent hazardous engine conditions resulting from shaft failure under § 33.27(a) and (c)). As a minimum, recommend whether additional allowance for aircraft inhibition of engine protection systems should go beyond the conditions described in FAA Policy Statement PS-AIR-33.27-02, “Turbine, Compressor, Fan, and Turbosupercharger Rotor Overspeed Engine Control Systems, 14 CFR § 33.27(c) & (e),” Dated February 2, 2023.
- e) Electrical Wiring Interconnection Systems (EWIS): Propose changes to part 33 to ensure the engine would meet the part 25 subpart H and Appendix H25.5 EWIS requirements at the time of engine certification, without additional FAA certification findings at the part 25 level.
- f) Thrust Reverser Aircraft Requirement Guidance: Recommend changes to AC 20-18B, “Qualification Testing of Turbojet and Turbofan Engine Thrust Reversers,” dated July 7, 2015, to include additional part 25-specific thrust reverser requirements.
- g) Where applicable, for any changes to FAA regulations proposed under each sub-task, provide quantitative and qualitative estimates of the resulting costs and benefits.
- h) Develop reports for each task 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.
 - c. The working group may submit incremental reports covering individual sub-tasks to the TAE for consideration by the ARAC.

2024 Schedule

- ✓ Kickoff meeting held 9-11 January @ FAA, Burlington, MA
- April 2024 – F2F meeting @ GE, Cincinnati, OH
- September 2024 – F2F meeting @ Boeing, Seattle, WA
- November 2024 – F2F meeting in EU (location TBD)
- Telecons every 2 weeks

Tasking Status

- WG decided to limit work to one task at a time due to resource constraints (at least initially)
- Task (a) was introduced at kickoff meeting
- Follow-up telecons begin 14 February

Areas of ARAC Consideration

- None