AVIATION RULEMAKING ADVISORY COMMITTEE (ARAC) MEETING

September 26, 2024 ***1:00 PM – 4:00 PM

- Welcome and Introductions
- Federal Advisory Committee Act (FACA) Statement
- Ratification of Minutes
- Welcome New Members and FAA Presentations
  - FACA 101 – Christopher Matthews, Office of Chief Counsel
- Status Updates and Recommendation Reports
  - Airman Certification System Working Group – Mr. David Oord
  - Training Standardization Working Group – Mr. Brian Koester
    - ❖ September 2024 Recommendation Report
    - ❖ Future of the Working Group
  - Transport Airplane and Engines (TAE) Subcommittee – Mr. Keith Morgan
    - Flight Test Harmonization Working Group – Mr. Brian P. Lee
      - ❖ Phase 4/ Topic 22: Derate Thrust Procedures Recommendation Report
    - Ice Crystals Icing Working Group – Ms. Melissa Bravin and Mr. Allan van de Wall
    - Engine and Powerplant Interface Working Group – Melissa Bravin and Douglas Beneteau
- FAA Updates
  - Regulatory Activities
- Fiscal Year 2025 Meeting Dates
  - December 12, 2024
  - March 20, 2025
  - June 26, 2025
  - September 18, 2025

AVIATION RULEMAKING ADVISORY COMMITTEE DRAFT RECORD OF MEETING

MEETING DATE: June 13, 2024

MEETING TIME: 2:00 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 the AVS Collaboration Lab, 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 May 30, 2024 (89 FR 46984).

ATTENDEES:

Committee Members	
Chris Martino	Vertical Aviation International (VAI)
Chris Witkowski	Association of Flight Attendants (AFA)
Daniel Friedenzohn	Embry-Riddle Aeronautical University
David Oord (In-Person)	Wisk, *ARAC Chair*
Doug Carr	National Business Aviation Association (NBAA)
Gail Dunham (In-Person)	National Air Disaster Alliance/Foundation (NADA/F)
George Paul	National Air Carrier Association
Justin Barkowski	American Association of Airport Executives (AAAE)
Keith Morgan	Pratt & Whitney
Larry Rooney (In-Person)	Coalition of Airline Pilots Association (CAPA)
Michelle Betcher	Airline Dispatchers Federation
Paul Hudson (In-Person)	FlyersRights.org
Randy Kenagy (In-Person)	Air Line Pilots Association (ALPA)
Ric Peri (In-Person)	Aircraft Electronics Association

Sarah MacLeod (In-Person)	Aeronautical Repair Station Association (ARSA)
Tom Charpentier	Experimental Aircraft Association (EAA)
Non- Members	
Al Johnston	Public Observer
Brian Lee	Boeing Company *Flight Test Harmonization Working Group Chair*
Carlos Lima	Bombardier
Chris Duffy	MOOG Inc.
Cory Newman	Bombardier
Dan Shapiro	Sikorsky Aircraft
Daniel Foster	AeroSpaceIntel
Doug Beneteau	GE Aerospace
Jason Lepore	Bombardier
Jennifer Thibodeau	Cargo Airline Association (CAA)
Jim McClay	Airline Owners and Pilots Association (AOPA)
Jim Stieve	Southwest Airlines
Jens Henning (In-Person)	General Aviation Manufactures Association (GAMA)
Kheira Aboub	Bombardier
Mark Hitt	Chromalloy
Maryanne DeMarco	CAPA
Michael Danielson	Bombardier
Nobuyo Reinsch	Regional Airline Association
Pascal Tran	SAE International
Rob Hackman	Experimental Aircraft Association (EAA)
Samir Neaime	Bombardier - Canada
Stephen Carnduff	Bombardier
Tanya Boisseranc	Boeing
Zhidan Wang	Bombardier

FAA Staff	
Alberto Ramon	Policy, International Affairs, and Environment (APL)
Aliah Duckett (In-person)	Office of Rulemaking (ARM)
Andrew Whitaker	APL
Angela McCullough	UAS Integration Office (AUS)
Brandon Roberts (In-person)	ARM, *Designated Federal Officer*
Bryan Davis	Flight Standards Service (AFS)
Constantinos Kaloudelis	ARM – FAA Intern
Christopher Bailey	Aircraft Certification (AIR)
Chris Thomas	Aviation Safety (AVS)
Everette Rochon	AFS
George Padalec	AFS
Jabari Raphael	AFS
James Sapoznik	AFS
James Showman	AIR
Lakisha Pearson	ARM
Meghan Gordon	AIR
Paul Gauthier	AFS
Puja Sardana (In-person)	FAA Contractor
Ramona Fillmore	AFS
Rob Reckert	AFS
Sandra Shelley	AFS
Shelly Waddell	AFS
Syerra Joyner (In-Person)	ARM – FAA Intern
Thuy Cooper	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 2:00 pm ET. He reminded everyone that the meeting was being recorded and reviewed logistics for the hybrid meeting.

Mr. Roberts read the required Federal Advisory Committee Act (FACA) statement (Title 5 U.S.C. Chapter 10). He stated that members of the public may address ARAC with permission of the Chair, Mr. David Oord.

Ratification of Minutes

Mr. Oord asked for a motion to accept the March 21, 2024,[1] ARAC meeting minutes. Mr. Larry Rooney motioned to accept the minutes, and Ms. Sarah MacLeod seconded the motion.

All ARAC members voted in favor of ratifying the March meeting minutes.

Status Reports/Recommendation Reports

A copy of the June 13, 2024, meeting packet, which includes working group presentations, can be found at: https://www.faa.gov/regulationspolicies/rulemaking/committees/documents/june-2024-arac-meeting-packet.

Airman Certification System Working Group (ACSWG)

Mr. Oord, ACSWG Chair, provided the working group's status report update. He stated that membership is stable and that ACSWG tasking remains the same. Mr. Oord noted that the Airman Certification Standards and Practical Test Standards for Airmen; Incorporation by Reference (IBR) Final Rule published on April 1, 2024 (89 FR 22482). He stated that the group is reviewing the rule to reorganize the scope, priorities, subgroups, schedule, and timelines of their work.

Mr. Ric Peri asked for clarification on the process to edit an Airman Certification Standard (ACS), given that all ACSs are now regulatory under the IBR final rule. Mr. Roberts stated that all ACSs will be regulatory, but the contents of an ACS can be edited by creating an updated 'version 2' of an existing ACS that has already gone through the IBR process. He noted that the agency can replace the original 'version 1' of

[1] The March 21, 2024, meeting minutes can be found at: https://www.faa.gov/regulationspolicies/rulemaking/committees/documents/june-2024-arac-meeting-packet

a previously incorporated by reference ACS with that updated 'version 2.' Ms. MacLeod noted that it can also be done through a direct final rule. She recommended that the agency provide guidance material on pathways to update ACSs. She noted that, in some cases, an update to a standard may need to be made immediately and would not allow time for the agency to approve a new 'version 2.' Mr. Oord stated that the ARAC process would not change, and that if a working group had a recommendation to update an ACS, it would go through ARAC for a vote, and then would be forwarded to the agency for review. Discussion continued and ARAC members agreed there should be a standard and efficient way to update ACSs in a timely manner.

Training Standardization Working Group (TSWG)

In Brian Koester's absence, Mr. Oord provided the working group's status report update. He mentioned that there was one change in TSWG membership, noting that Brian Roggenbaum, the new representative for Textron has been appointed to the working group. He stated the status of tasking has not changed, noting that the group continues to meet regularly and is working on recommendations for both King Air 300 (BE-300) and Challenger 300 (CL-30).

Mr. Oord noted that the FAA is working to publish guidance for Adaptive Recurrent Training and that TSWG is currently reviewing methods to expedite the recommendation process. He stated that the group has no areas for ARAC consideration at this time.

Part 65.101 Repairman Certificate Portability Working Group

Mr. Ric Peri provided the working group's status report update, stating that there have been no changes in membership, tasking, nor the schedule. He reminded members that ARAC approved the Preliminary Report in September 2023 and members received the Final Report for review and consideration on June 6, 2024. He noted that the recommendations from the preliminary report are incorporated by reference in the final report.

Mr. Peri described the following recommendations in the report:

A. Recommendations that Require Rulemaking

To realize the full benefits of a repairman certificate issued under 14 CFR § 65.101, the working group recommends:

- A change to part 65 to allow the repairman to retain the certificate when it becomes ineffective between employers, rather than return it to the FAA as currently required by § 65.15(c).
- The replacement of the term "repairman" with the term "limited mechanic" to reflect the similarity in the aeronautical knowledge, risk management, and skills of a 14 CFR part 65 subpart D mechanic.

B. Recommendations that Do Not Require Rulemaking

To allow portability within the current regulations, the final report updates the recommendations from the preliminary report by:

- Assigning a permanent airman certificate number to repairman.
- Adding a repairman limitation to the 14 CFR part 65, subpart D mechanic certificate.
- Standardizing the aeronautical knowledge, risk management, and skill requirements to those developed for mechanics to recognize repairmen as limited mechanics.

To facilitate the adoption of the recommended changes, the working group completed draft rewrites of:

- Advisory Circular (AC) 65-24, and
- FAA Order 8900.1, Volume 5, Chapter 5, Section 4.

Mr. Hudson asked if the recommendations have any effect on the hiring and certification of inspectors and airmen. Mr. Peri said that the process of standardization may seem harder, but it should enhance recruitment, as it allows the applicant to prepare better for the specific job they are going to work on. He clarified that inspectors are not certificated and that employers (not the FAA) are required to ensure staff in certificated positions are qualified for the job they are assigned. ARAC members continued discussion centered around certifications, qualifications, roles/responsibilities, and the need for standardization.

Mr. Oord reminded ARAC members that the Part 65.101 Repairman Certificate Portability Working Group's Final Report was emailed on June 6, 2024. He asked the working group if they would be open to a virtual vote from ARAC members. Mr. Peri agreed, and ARAC members confirmed each would vote by email. Mr. Oord stated votes are due July 8, 2024, and that the Office of Rulemaking would send instructions to ARAC members. Mr. Peri stated the working group will not meet again until instructed otherwise.

Transport Airplane and Engine (TAE) Subcommittee

Mr. Keith Morgan provided the TAE Subcommittee status report update, including membership and meeting schedule. Mr. Morgan noted that ARAC will discuss and vote on the Flight Test Harmonization (FTHWG) Landing In Abnormal Configurations[2] recommendations report during the meeting and that the FTHWG Topic 22: Derate Thrust Procedures will be considered at the September 12, 2024, ARAC meeting.

[2] The FTHWG Topic 26: Landing in Abnormal Configurations Report may be found at: https://www.faa.gov/media/80896

Flight Test Harmonization Working Group (FTHWG)

Mr. Brian Lee stated the membership is stable and that the group meets regularly. He detailed the work being done on the following three topics under Phase 4:

- FAME (how to deal with failures affecting Handling Qualities)
- Landing Distance for Abnormal Configurations (Draft report is very close)
- Reduced/Derated Thrust Takeoff Procedures (Draft report in discussion)

Mr. Lee said that leadership planning for Phase 5 tasking is complete, and the FAA sponsor has been sent the tasking statement for publication.

Mr. Morgan detailed the workflow of Phase 4 topics and described the plan for Phase 5. He stated that the group has no areas for ARAC consideration at this time.

Ice Crystal Icing Working Group (ICIWG)

Mr. Morgan stated that there were no changes in membership nor tasking. He reviewed the schedule and the status of tasking, noting that the group's work is on track to be completed by the end of 2025.

Engine and Powerplant Interface Working Group (EPIWG)

Mr. Doug Beneteau provided the EPIWG's status report update and highlighted the various organizations and subject matter experts represented in the group's membership.

Mr. Beneteau noted that the group requested the following change (shown in red) in the language of their tasking and confirmed this change has been coordinated with their FAA Representative, Alan Strom.

> *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~~ rotor blade failure.*

Mr. Hudson asked if there was a specific problem or safety concern that triggered the establishment of this working group. Mr. Beneteau stated that there have been recent issues with fan blades and propulsion systems, highlighting a recent Southwest accident as an example. Mr. Roberts suggested Mr. Hudson refer to the group's tasking and NTSB safety reports for more specific information.

FTHWG Landing In Abnormal Configurations Recommendation Report

Mr. Lee provided the following high-level summary of the FTHWG's recommendation report:

- There are no FAA, National Civil Aviation Agency (ANAC), or Transport Canada Civil Aviation (TCCA) advisory material is available to provide guidance with respect to the scheduling of data for landing in abnormal configurations.
- The European Union Aviation Safety Agency (EASA) has introduced in the Easy Access Rules for Large Aeroplanes (CS-25 Amendment 21) the requirement 25.1587(c), and its associated acceptable means of compliance (AMC), which was based on generic Joint Aviation Authorities (JAA) and EASA critical review item (CRI) "Landing in abnormal configurations."
- FTHWG was tasked to determine the best way to harmonize this situation and to provide proposed rulemaking and associated guidance to implement the harmonized result.

Mr. Lee stated that the group decided that the best place for a requirement for landing distance following annunciated failures is in the Time of Arrival Landing Distance specification, 25.1592 (not 25.1587(c) as used by EASA). Mr. Lee noted that the group arrived at a unanimous consensus, with no dissenting opinions on the report.

Mr. Oord asked for a motion to accept the report. Ms. MacLeod motioned, and Mr. Peri seconded the motion. All ARAC members voted in favor of accepting the report.

Other Business and FAA Updates

FAA Personnel Updates

Mr. Roberts announced that Lirio Liu, Executive Director for the Aircraft Certification Service (AIR-1), announced she will retire at the end of June.

Regulatory Updates

Mr. Roberts noted that the Spring Unified Agenda is projected to publish in July or August 2024. He stated that since the March meeting, the following rulemaking documents have published:

- Airman Certification Standards and Practical Test Standards for Airmen; Incorporation by Reference Final Rule published on April 1, 2024. The rule became effective on May 31, 2024.
- Foreign Air Operator Certificates Notice of Proposed Rulemaking published on May 22, 2024. Comments are due June 24, 2024.

Mr. Roberts stated that on May 16, 2024, President Biden signed the FAA Reauthorization Act of 2024. He stated the following provisions reference ARAC:

- Sec. 405: Airman Knowledge Testing Working Group - Requires the FAA to establish an ARAC Working Group to assess and evaluate the appropriateness of

allowing high school students upon successful completion of an aviation maintenance curriculum to take the general written knowledge portion of the mechanic exam.

- Sec. 406: Airman Certification Standards - Requires FAA to use the ACSWG to ensure that airman proficiency and knowledge correlate and correspond to regulations, procedures, equipment, aviation infrastructure, and safety trends.
- Sec. 518: Updating Passenger Information Requirement Regulations - Tasks ARAC to review regulations relating to passenger information requirements for scheduled air carriers and allows the Committee to make recommendations to update and improve such regulations.
- Sec. 956: Advanced Propulsion Systems Regulations – Requires ARAC to provide recommendations to FAA on updating regulations related to new forms of propulsion mechanisms and methods.
- Sec. 333: ARAC tasking - Tasks the Investigative Technology Aviation Advisory Rulemaking Committee (ARAC) with reviewing and assessing the need for changes to the safety requirements for turbine-powered rotorcraft certificated for 6 or more passenger seats related to flight data recorders, flight data monitoring, and terrain awareness and warning systems. The committee must submit a report on the findings of the review to the FAA.

Mr. Hudson asked if any legislation would increase hiring, and Mr. Roberts clarified that agency hiring is determined by funding appropriations for the fiscal year.

Adjournment

Mr. Oord stated that the next meeting will be September 12, 2024. He concluded the meeting at 4:14 pm.

Introduction to the Federal Advisory Committee Act (FACA) Requirements

Presented to: Aviation Rulemaking Advisory Committee (ARAC)

By: Christopher Matthews

Date: September 26, 2024

Federal Aviation Administration

Federal Advisory Committee Act (FACA)

- FACA governs ARACS's activities
  - FACA, Title 5 of the United States Code (Title 5 U.S.C. §§ 1001)

- FACA states that:
  - Unless specified by law or presidential directive, advisory committees must be used solely for advisory functions;
  - Standards and uniform procedures should govern the advisory committee's establishment, operation, administration, and duration; and
  - Congress and the public must be kept informed of the advisory committee's purpose, membership, activities, and cost.

- FACA also includes requirements on:
  - Advisory committee procedures,
  - Meetings,
  - Publication of notices in the *Federal Register*,
  - Annual reports,
  - Federal officer or employee attendance, and
  - Recordkeeping requirements.

Establishing a Federal Advisory Committee (FAC)

- A notice to the public in the Federal Register is required when a discretionary advisory committee is established, renewed, or re-established.
- Advance notice must appear at least 15 calendar days before the charter is filed.
- Requirement for advanced notice does not apply to advisory committee renewals, which may be published concurrently with the filing of the charter.
- A formal charter must be prepared and must be filed with the agency head, the Library of Congress, the appropriate standing committees of the Senate and the House of Representatives, and the CMS before the FAC can meet or take any action.
- The charter is informed by, and must be consistent with, the Membership Balance Plan that is prepared for each FAC.
- A FAC automatically terminates two years after its date of establishment unless the statutory authority used to establish the FAC provides a different duration, or the charter is renewed.

FACA Requirements

- FACA requires that, when conducting meetings, the FAA must:
  - Prepare a notice of meeting for publication in the *Federal Register* at least 15 calendar days before the meeting.
  - Keep detailed meeting minutes.
  - Certify the accuracy of meeting minutes.
  - Make documents available to the public.
  - Provide an annual report documenting the meetings, the number of recommendations received, accepted in full, partial, and not accepted, travel, etc.

Meeting Requirements

- Each advisory committee meeting is held at a reasonable time and in a manner or place reasonably accessible to the public, to include facilities that are readily accessible to and usable by persons with disabilities.

- The following activities of an advisory committee are not subject to the notice and open meeting requirements of FACA.

  - *Preparatory work.* Meetings of two or more advisory committee or subcommittee members convened solely to gather information, conduct research, or analyze relevant issues and facts in preparation for a meeting of the advisory committee, or to draft position papers for deliberation by the advisory committee; and

  - *Administrative work.* Meetings of two or more advisory committee or subcommittee members convened solely to discuss administrative matters of the advisory committee or to receive administrative information from a Federal officer or agency.

Member Responsibilities

- The Secretary appoints all members to parent committees**.**
  - All nominations shall be reviewed by the FAA Ethics Official for proper classification prior to submission to OST.
  - Secretary will approve the committee Chair and Vice Chair unless authorized or delegated by charter, executive order, presidential directive, or secretarial action.
- Represent the views of the stakeholder group that the member is appointed to.
- Shall prepare all committee reports, recommendations, and other similar committee work products.
- Expected to attend meetings.
- Does not disclose information prior to deliberation at a committee's public meeting.
- May only speak with Congress and the media in their personal capacity.

Designated Federal Officer (DFO) or DFO Designee Responsibilities

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- Perform the duties assigned to the DFOs pursuant to FACA and its implementing regulations;
- Prepare required FACA committee documentation, including charters and membership balance plans, in accordance with Agency and GSA formatting guidelines;
- Ensure that all individuals recommended for appointment to a committee are properly vetted;
- Manage technical, administrative, and other arrangements for meetings;
- Ensure detailed minutes of each FACA committee meeting, including ones that are closed or partially closed to the public, are kept, and ensure they are certified in accordance with 41 CFR 102-3.165;
- Complete the Annual Comprehensive Review and keep the GSA FACA database up-to-date;
- Manage committee records in accordance with General Records Schedule 6.2; and
- Take annual FACA training.

Subcommittee

- FACA subcommittees must report back to the parent committee and must not provide advice or work product directly to the agency or another subcommittee.
- The FAA's Ethics Official must review all nominations before an individual is appointed to a subcommittee by the FAA Administrator.
- Not required to hold public meetings or announce meetings in the Federal Register.
- Not required to take minutes.

Helpful Links:

- ARAC Email – 9-awa-arac@faa.gov
- Committee Manual – https://www.faa.gov/media/75196
- FAA Committee Webpage – https://www.faa.gov/regulations_policies/rulemaking/committees

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

David Oord
Working Group Chair

September 2024

MEMBERS of ACSWG - INDUSTRY

- David Oord, Wisk
- Paul Alp, Independent
- Emelia Bernava, Independent
- Jared Brit, Aviation Ed Academy
- Paul Cairns, Independent
- Kevin Comstock, ALPA
- Rhonda Cooper, Boeing
- Eric Crump, Aerospace Center for Excellence
- Rob Cush, AMFA
- David Dagenais, Independent
- Maryanne DeMarco, CAPA
- David Earl, Flight Safety
- Scott Ferris, United Airlines
- Jim Gibson, Independent
- Tom Gunnarson, Wisk
- Robert Hackman, EAA
- Jens Hennig, GAMA
- Mark Holloway, AIM
- Chuck Horning, ERAU
- Murray Huling, AOPA
- David Jones, Avotek
- Karen Kalishek, NAFI
- 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
- Arthur Rousseau, CC of Air Force
- Mary Schu, Mary Schu Aviation
- Roger Sharp, Independent
- Andrew Smith, KSU
- Jackie Spanitz, ASA
- Burt Stevens, CFI Care
- Tim Tucker, Robinson
- Donna Wilt, SAFE
- Roger Woods, Leonardo

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
- Everette Rochon
- Jason Smith
- Shelly Waddell Smith
- Robert Terry
- Matt Waldrop
- Stephanie Williams
- Bill Witzig

SUMMARY OF TASKING

- Provide recommendations regarding standards, training guidance, test management, and reference materials for airman certification purposes.
- Data analysis subgroup to continue to develop reports needed for training, testing and safety improvements.
- 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
  - Call to Action report - May 2022
  - Call to Action, Recommendation 4, Data Analysis report - January 2023
- Final recommendation report
  - With IBR Final Rule cleared, work and collaboration spooling back up
  - Defining new processes, coordination, priorities, and timelines.

SCHEDULE

- **2024 Meetings**
  - Working to establish cadence for future meetings of working group and associated subgroups
    - August 14 Meeting (Virtual)
    - Bi-weekly FAA-Industry leads call to ensure lines of communication remain open, work through and resolve issues, and maintain alignment

STATUS OF TASKING

- Standards
  - Prioritize both PTS to ACS conversions and revisions/updates to existing ACS
    - Keep the overall Airman Certification System up to date
  - ACS Revisions –
    - Aviation Mechanic General, Airframe, and Powerplant
    - Private Pilot for Rotorcraft Category Helicopter Rating
    - Commercial Pilot for Rotorcraft Category Helicopter Rating
    - Flight Instructor for Airplane Category
  - PTS to ACS –
    - CFI Glider; CFII Airplane and Helicopter; Airship; Commercial Balloon; Private Glider; Commercial Glider
- Handbooks
  - Reviewed new handbook process
  - Currently reviewing drafts of new editions for Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25), Weight-Shift Control Handbook (FAA-H-8083-5), Aviation Mechanic: General (FAA-H-8083-30), Aviation Mechanic: Airframe (FAA-H-8083-31)
  - Currently reviewing existing editions to propose scope for new work for Helicopter Flying Handbook (FAA-H-8083-21) and Helicopter Instructor Handbook (FAA-H-8083-4)

Training Standardization Working Group
Status Report to the
Aviation Rulemaking Advisory Committee

September 12, 2024

MEMBERS of Training Standardization Working Group

Thomas	Benvenuto	Solairus Aviation
Stephen	Bragg	Executive Jet Management
Greg	Brown	Helicopter Association International
Doug	Carr	National Business Aviation Association
Gene	Copeland**	Jet Aviation
Jon	Dodd	Coalition of Airline Pilots Associations
Aimee	Hein	CAE, Inc.
Jens	Hennig	General Aviation Manufacturers Association
Brian	Koester*	National Business Aviation Association
Todd	Lisak	Air Line Pilots Association
Steve	Maloney	Sun Air Jets
Brian	Neuhoff	Airbus Helicopters
Fabricio	Oliveira de Toledo	Embraer
Janine	Schwahn	Summit Aviation, Inc.
Brian	Small	FlightSafety International
Annmarie	Stasi	Northwell
Daniel	Von Bargen	Pilot
Brian	Roggenbaum**	Textron

FAA Partners
Josh Tarkington
David Ryon
Shannon Salinsky
James Sapoznik
Kristin Tullius

**Training Standardization Working Group Chair*
*** Membership pending DOT review*

SUMMARY OF TASKING

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

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

SCHEDULE

- ✓June 2021 – Deadline for submitting initial recommendation report including the proposed master schedule for standardized curriculum development to ARAC. The deadline to submit the interim report to the FAA is June 30, 2021.
- ✓ December 2021 – Deadline for submitting the addendum recommendation report, including a standardized curriculum to qualify training center instructors and check pilots to provide part 135 training, testing, and checking to ARAC. The deadline to submit the interim report to the FAA is December 31, 2021.
- The Training Standardization Working Group may submit ad hoc recommendation reports, including continuous improvements, to standardized curricula, via ARAC to the FAA for review and consideration at any time.
- The voting members of the TSWG meet quarterly

STATUS OF TASKING

- Tasking 1 (schedule) and 2 (instructor curriculum) are complete.
  - The FAA is making revisions to the instructor curriculum
- Tasking 3, 4, and 5 remain ongoing.

AREAS of ARAC CONSIDERATION

- FAA requested additional information in five areas for Adaptive Recurrent Training
  - Ground school
  - Supplemental grading criteria
  - Scenarios
  - Split oral exams
  - Incomplete FSTD events
- Industry response included in section 5
- Adaptive Recurrent Training remains a top priority

RECOMMENDATION(S)

- Recommendation for CL-30 Curriculum
- Unanimous consent
- Omitted learning objectives
- Contains:
  - Planned hours
  - Abbreviated checklists
  - Flows
  - Maneuvers

RECOMMENDATION(S)

- TSWG “will provide advice and recommendations to the ARAC on the most effective ways to standardize curricula provided by training centers.”
- Recommendation to expedite implementation of SC
- SC Goals remain in place:
  - Improved safety through standardization
  - Reduced administrative burden
  - Data driven recurrent

RECOMMENDATION(S)

- TSWG established strong foundation
  - Recommended curricula representing nearly 25% of part 135 training events at 142 TCs
  - Recommended instructor and check pilot curriculum
  - Established SOP framework
  - Recommended path for data driven recurrent
  - Recommended safety and administrative enhancements
- TSWG has run its course
  - Data is more available
  - Industry is busier
  - Bureaucratic inefficiencies are untenable

RECOMMENDATION(S)

- TSWG recommends FAA establish path to recognize current training paradigm
  - 135 operators rarely develop their own aircraft training program
  - 142 aircraft training programs are standardized
  - Current 142 training programs comply with regulations and guidance
- TSWG recommends updating Order 8900.1, Volume 3, Chapter 54, Section 5.
- Industry can voluntarily develop and implement standardized SOPs and best practices
- Feedback mechanisms already exist

RECOMMENDATION(S)

- Model guidance after Streamlined LOA program
- Seek input from industry trade groups as needed in specified areas

DISSENT(S)

- ALPA seeks opportunity for formal oversight and transparent input

Transport Airplane and Engine Subcommittee Status Report to the Aviation Rulemaking Advisory Committee

Keith R. Morgan
Subcommittee Chair

26 SEPT 2024

Members of the Transport Airplane and Engine Subcommittee

Pratt & Whitney

ALPA

A4A

Airbus

Boeing

GAMA

Embraer

SRCA

FAA

EASA

TCCA

TAE Meeting Schedule

- 2024 Meetings
  - January 23
  - April 23
  - 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

September 2024

- 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 July,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 Westbrock + SME's	Gulfstream Mike Watson +SME's	Airbus Canada Dimitri Cuesta +SME's	Norwegian Airlines John Lande
Transport Canada Lee Fasken	Bombardier Tony Spinelli +SME's	Textron Kurt Laurie +SME's	DeHavilland Canada Eric Herrmann +SME's	
				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

- Phase 4
  - Reduced/Derated Thrust Takeoff Procedures – Recommendation Report complete, to be discussed at this meeting.

- Leadership planning for Phase 5 tasking Complete
  - FAA sponsor has sent tasking statement for publication – preview to follow
- Phase 5 has launched
  - FAME (continued from Phase 4)\
  - HUD/Autoland Landing Distance
  - Tail Clearance during takeoff abuse testing

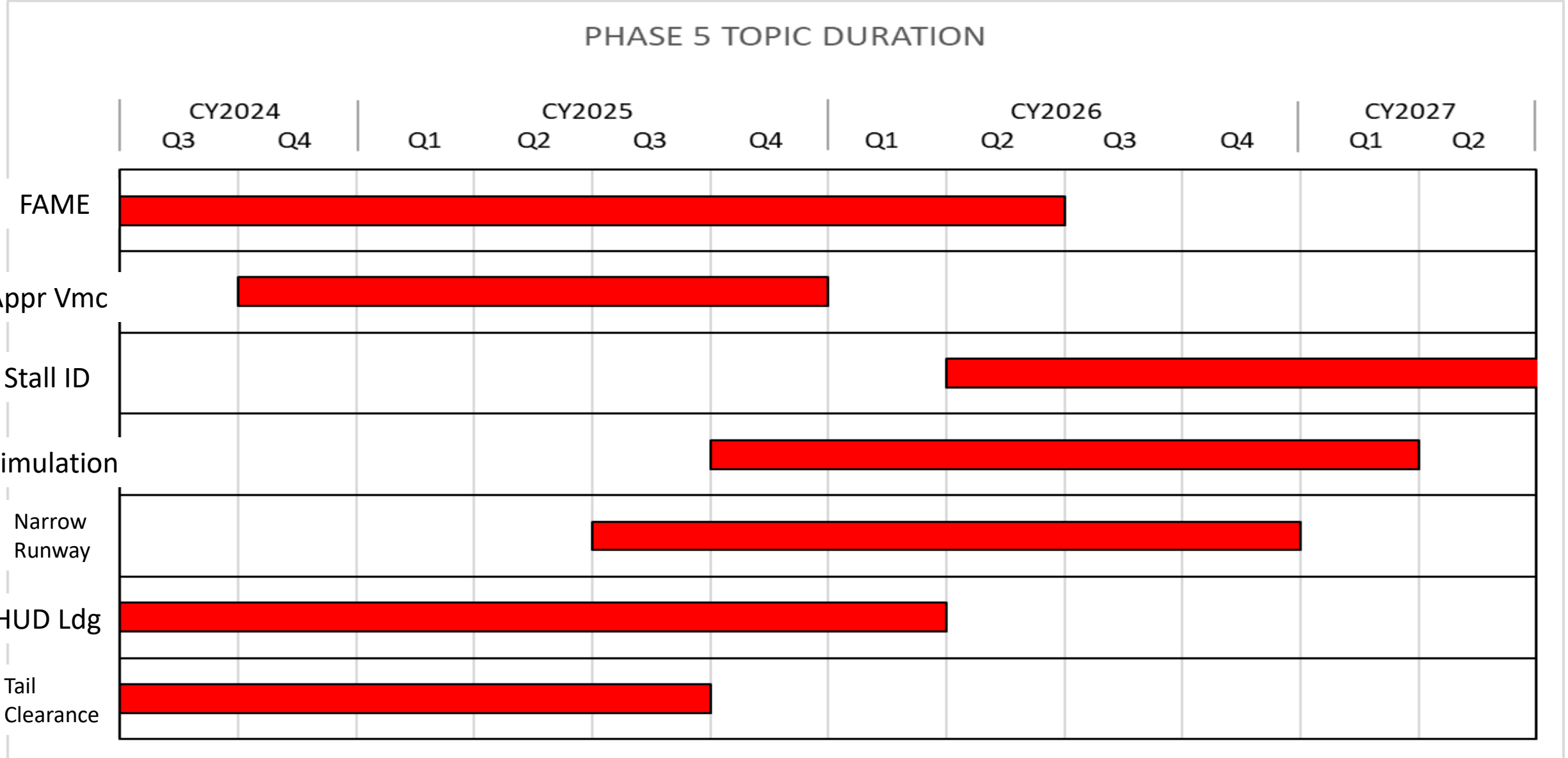
Phase 5 Planning

- Planning for Phase 5 complete (due dates from tasking date)
  - Tasking Statement transmitted for publication in Federal Register
    - (16) FAME (continue from Phase 4) (30 months)
      - Includes System Safety and Propulsion SME's (for 901C3)
    - (21) Narrow Runway (Baseline finished, now move to "narrower than baseline") (30 months)
      - Delayed start to allow for System Safety participation
    - (42) Use of Simulation for Certification (36 months)
      - Harmonize and improve wording in current guidance to encourage more use
    - (24) HUD/Autoland Landing Distance (18 months)
      - Improve consistency during landing operations
    - (34) Vmc Limit during Approach (24 months)
      - Generate equivalent to Vmc_L for approach flaps
    - (38) Stall ID / Protection Systems (36 months)
      - Harmonize guidance for pusher systems
    - (23) Tail Clearance during Certification Testing (18 months)
      - Harmonize philosophy for inadvertent contact with the tailskid

Phase 5 Schedule – Planning Aspects

- Task duration taken from the original work plans developed ~10 years ago
- Concurrent scheduling: careful attention to HQ vs Performance topics to ensure appropriate technical SME's are available
- End dates are delivery to ARAC; Our end date is ~6-8 weeks earlier

Phase 5 Plan


PHASE 5 TOPIC DURATION
CY2024
Q3
Q4
CY2025
Q1
Q2
Q3
Q4
CY2026
Q1
Q2
Q3
Q4
CY2027
Q1
Q2
FAME
Appr Vmc
Stall ID
Simulation
Narrow Runway
HUD Ldg
Tail Clearance

Phase 5 FTHWG Topic Technical Status (1 of 2)

051

- Topic #16 Failure Assessment Methodology & Evaluation (FAME)
  - Now fully engaged (including good interaction with System Safety SME's) making progress
    - EASA has withdrawn from this topic again
  - 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 has generated evaluation procedures, processes, rating scales, and application of environmental conditions, etc.
    - Several member organizations have begun pilot testing of proposed procedures

Phase 5 FTHWG Topic Technical Status (2 of 2)

- HUD / Autoland Landing distance
  - 25.125 landing distance is based on manual pilot technique; Many HUD's have a flare cue, which might not meet the same criteria for distance
  - Brought Work Plan up to date, agreed to details
    - Originally written more than 10 years ago
    - Much has happened since then
  - Just beginning technical discussions: only 1 meeting so far

- Tail Clearance on takeoff
  - Reviewed various standards in place; working on common understandings
    - Flight test only tail skids
    - What about production protection devices?
    - Details of rotation rate; common variations in service
  - Just beginning technical discussions: only 1 meeting so far

AREAS for ARAC CONSIDERATION

- We would like to continue to encourage Authorities to support this activity across necessary disciplines (as other members are)
- Recent Publication of the SSA final rule (26 August, 2024)
  - AC 25.671-1 includes a new definition of “Normal Flight Envelope” to include speeds to Vdf/Mdf and Load Factors to Limit Load
    - This definition is NOT Harmonized
    - Not consistent with guidance material in other sections (e.g. 25.933, 25.1329, etc.)
    - Not included in draft material we commented on
      - Suggests lack of transparency for proposed changes

Ice Crystal Icing Working Group Status Report Transport Airplane and Engine Subcommittee

Melissa Bravin
Allan van de Wall
Working Group Co-Chairs

23 July 2024

New ALPA Staff Engineer

ICI Working Group Membership

Member Name	Organization	Role
Philip Haberlen	(FAA-ANE Standards) FAA Representative	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 International Association	Other – P
Yonas Aboye	Air Line Pilots International 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, Turboshaft and Turbofan Engine Induction System Icing and Ice Ingestion*, based on Task 1 through 5 results.
    7. Assist the FAA in determining the initial qualitative and quantitative costs, and benefits that may result from the working group's recommendations.
    8. Develop a recommendations report containing the results of tasks 1 through 6. The report should document both majority and dissenting positions on the findings, the rationale for each position, and reasons for disagreement.

2024 Schedule

- F2F meeting held 6-8 February 2024 @ Honeywell, Phoenix, AZ
- Other F2F meetings subject to need
- Monthly telecons as needed planned for 2024
  - Awaiting more information from joint probability study (details on next slide)

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:**
     - **Funding released for FAA / NASA Langley contract, anticipated to kick off August(?) 2024**
     - **Current prediction is that joint probability study projected to complete in by end of 2024**
     - **ICIWG requested and received approval for new end date of December 2025**

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.
   - ARAC Report ECD December 2025

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

26 September 2024

Engine Powerplant Interface Working Group (EPIWG)

- Purpose: To provide recommendations to the ARAC on the most effective ways to resolve regulatory and guidance gaps and conflicts between 14 CFR Part 25 & 33.

- Recommendations should maximize harmonization of airworthiness authority regulations and guidance to the extent practicable (FAA, EASA, ANAC, TCCA)

Working Group Membership

Name	Organization	Role	Voting Member
Rob Esteve	PW		Yes
Doug Marchese	ALPA		Yes
Pierre-Emmanuel Arnaud	Airbus		Yes
Yonas Aboye	ALPA		Yes
Philippe Vigarios	Airbus		Yes
Dominique Bernard Tosolini	Safran		Yes
Doug Beneteau	GE Aerospace	Co-Chair	Yes
David Berger	GE Aerospace		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

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

In work

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 blade failure.

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.

EPIWG SMEs for Task a) Rotor Blade Fragments

Name	Company
Antoine Pilon	Airbus
Torben Syberg	Boeing
Andrew Kulak	Boeing
Alexander Girgenti	PW
Bill Graves	PW
Kevin Kirkeng	GE Aerospace
Juan van der Merwe	Rolls-Royce
Alain Bassot	Safran
Matthew Kappes	Rolls-Royce
Moritz Wirth	Rolls-Royce
Michael Bolis	Boeing
Katherine Cerra	Boeing

2024 Schedule

✓Kickoff meeting held 9-11 January @ FAA, Burlington, MA

✓June 11-13, 2024 – F2F meeting @ GE, Cincinnati, OH

✓September 17-19, 2024 – F2F meeting @ Boeing, Seattle, WA

- December 3-5, 2024 – F2F meeting in @ Rolls Royce, Berlin, Germany

- 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 began in February
- Efforts to date focused on building detailed text to enable specific steps to be identified
  - Examples: review of field events, which components are of interest when evaluating blade-out capability, industry modeling capability for this complex scenario, etc.
- June F2F resulted in plan forward
  - 3 x AC updates: AC 25.362-41, AC 20-128, and AC 25-24
  - Common definitions (mostly from AIA 33.94 WG Recommendations)
- September F2F primarily a review of the above listed ACs (following page)
- Task A report to ARAC anticipated Dec 2025 (initial recommendations by early 2025)

September 17-19 F2F Outcomes

- Reviewed existing regulations to begin understanding differences and intent, primarily focused on 14 CFR Part 25.901 (c) and 25.903(d)
- Review the need for specific data needed & timing within collaborative engine/aircraft design phase to support airframe OEM hardware capability evaluations (in addition to 14 CFR 33.94 redline)
  - Critical Point Analysis (CPA): Fan blade release @ various speeds for blade fragmentation, trajectories and aircraft structure loads
- Discussed select engine OEM modeling capabilities to enable airframe OEM assessments, predictive capability focused on primary and secondary fragment trajectory within the containment case.
- Reviewed proposed new AC language defining the engine / airframe OEM integration steps necessary … Would be a 20 series AC applicable to both Part 25 and Part 33.
- May initiate task 2 (Function and Reliability Testing) early ‘25 depending on Task 1 progress

On track to deliver initial recommendation report for the first sub-task to the ARAC not later than 24 months after the first working group meeting

Areas of ARAC Consideration

- Industry team requested by the FAA to consider adding a new element to the tasking previously addressed via an AIA workgroup (Fan Blade out release location, outer-most retention feature vs flowpath).
  - A recommendation is not yet available from the team

Flight Test Harmonization Working Group Recommendation Report
Topic 22: Derated / Reduced Thrust Takeoff
Briefing to the
TAE Subcommittee

Brian P. Lee, Boeing

Laurent Capra, Airbus

Working Group Co-Chairs

23 July, 2024

FTHWG MEMBERS

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 Westbrock + SME's	Gulfstream Mike Watson +SME's	Airbus Canada Dimitri Cuesta +SME's	Norwegian Airlines John Lande
Transport Canada Lee Fasken	Bombardier Tony Spinelli +SME's	Textron Kurt Laurie +SME's	DeHavilland Canada Eric Herrmann +SME's	
				Operators
ANAC (Brazil) Marcos Carvalho	Dassault Philippe Eichel +SME's			ALPA John Cinnamon Brandon Miller

SUMMARY OF TASKING

The task of the FTHWG is to:

1) Harmonize and clarify the requirements and guidance material from various agencies
   - AC/AMC 25-13 (Reduced and Derated Thrust)
   - AC 25-7D Chapter 23.3 (Compliance to Appendix I, Automatic Takeoff Thrust Control System, ATTCS)
   - 14 CFR part 25 and CS-25 Appendix I (ATTCS)
   - FCAR (ANAC Performance Credit for ATTCS with Reduced Thrust)
2) Assess Means of Compliance or alternate Means of Compliance for
   - Fixed derates
   - Reduced thrust, assumed temperature (Flex)
3) Define criteria for use of reduced and derated thrust on contaminated runways
4) Harmonize the allowable thrust limit percentages
5) Clarify the use of ATTCS combined with reduced and/or derated thrust

SCHEDULE

- This topic was worked between September, 2022 and June, 2024
  - At least 6 face-to-face meetings
  - Many, many telecons
  - Even more private communications, e-mail conversations, external consultations.

RECOMMENDATIONS (1 of 3)

- Harmonize 14CFR part 25 and CS-25 Appendix I (Recommended text in the report)
  - Harmonize numerous editorial differences
  - Replace FAA limitation on 90% takeoff thrust with the EASA requirement for use of no more than 111% of initial takeoff setting for performance computations; allow performance credit for ATTCS (harmonized with EASA).
  - Include EASA requirement on inadvertent operation of ATTCS
  - Means to deactivate may not be necessary

RECOMMENDATIONS (2 of 3)

- Modify AC 25-13 (Reduced/Derated Thrust) (Proposed text in the report)
  - Update definitions of wet and contaminated surfaces from FTHWG Topic 32
  - Add a definition of Slippery Wet surfaces
  - Add Means of Compliance for Reduced Thrust
    - Integrate a minimum 60% of the maximum approved takeoff thrust
    - Give performance credit for ATTCS
    - Give credit for MCT thrust above reduced thrust for Final Takeoff Segment (FTO) performance computations
    - Authorize the use of reduced thrust and derated thrust on all runway conditions provided that takeoff performance duly accounts for contaminant drag effects
    - Provide means to verify the availability of reduced takeoff thrust or derated takeoff thrust not only based on periodic maximum approved takeoff thrust demonstrations
  - Add Means of Compliance for Derate Thrust
    - Integrate a minimum 60% of maximum approved takeoff thrust
    - Provide new criteria similar to reduced thrust guidance.
    - Consider throttle push during derated thrust takeoff

RECOMMENDATIONS (3 of 3)

- Modify AC 25-7 to accommodate the changes to Appendix I (Full proposed text included in the report)
  - Editorial changes to paragraphs
    - 23.3.2.1, changed paragraph reference
    - 23.3.2.3, changed paragraph reference
    - 23.3.2.4, replaced “improbable” with “remote”; probability did not change
    - 23.3.2.5, eliminated prohibition of performance credit for ATTCS; added conditions under which performance credit can be taken for both Derated and Reduced thrust operations
    - 23.3.2.5.2, replaced “is not restricted” with “is permitted” for ATTCS armed conditions

DISSENT

- Regarding procedures for throttle-push demonstration during Derated Thrust operation (where Vmc is adjusted to improve performance)
  - Dissent based on
    - There is no regulation for controllability in violation of AFM limitation; Constitutes rulemaking-by-AC.
    - There is a lack of a safety case for justification of a new regulation
    - There is no clear pass/fail criterion
  - Several OEM's joined the dissent
  - Majority of FTHWG decided to retain the recommendation for throttle-push demonstration and responded to the dissent (details in the report)