''Class Distinctions: Dutch Painting in the Age of Rembrandt and Vermeer,'' at the Nelson-Atkins Museum of Art, Kansas City, Missouri, from on or about February 20, 2016, until on or about May 29, 2016, in the exhibition ''Reflecting Class in the Age of Rembrandt and Vermeer,'' and at possible additional exhibitions or venues yet to be determined, is in the national interest. I have ordered that Public Notice of these Determinations be published in the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: For further information, including a list of the imported objects, contact the Office of Public Diplomacy and Public Affairs in the Office of the Legal Adviser, U.S. Department of State (telephone: 202–632–6471; email: *section2459@state.gov*). The mailing address is U.S. Department of State, L/PD, SA–5, Suite 5H03, Washington, DC 20522–0505.

Dated: August 20, 2015.

Evan Ryan,

Assistant Secretary, Bureau of Educational and Cultural Affairs, Department of State.

[FR Doc. 2015–21650 Filed 8–31–15; 8:45 am]

BILLING CODE 4710–05–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; Meeting

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of Aviation Rulemaking Advisory Committee (ARAC) meeting.

SUMMARY: The FAA is issuing this notice to advise the public of a meeting of the ARAC.

DATES: The meeting will be held on September 17, 2015, starting at 1 p.m. Eastern Standard Time. Arrange oral presentations by September 10, 2015.

ADDRESSES: The meeting will take place at the Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591, 10th floor, MacCracken Conference Room.

FOR FURTHER INFORMATION CONTACT: Renee Pocius, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591, telephone (202) 267–5093; fax (202) 267–5075; email *Renee.Pocius@faa.gov*.

SUPPLEMENTARY INFORMATION: Pursuant to Section 10(a)(2) of the Federal Advisory Committee Act (5 U.S.C. App. 2), we are giving notice of a meeting of the ARAC taking place on September 17, 2015, at the Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591.

The Agenda includes:

- Status Reports From Active Working Groups
  - Airman Certification Systems Working Group (ARAC)
  - Aircraft Systems Information Security/Protection Working Group (ARAC)
  - Air Traffic Controller Training Working Group (ARAC)
  - Airworthiness Assurance Working Group (TAE)
  - Engine Harmonization Working Group (TAE)—Engine Endurance Testing Requirements—Revision of Section 33.87
  - Flight Test Harmonization Working Group (TAE)—Phase 2 Tasking
  - Materials Flammability Working Group (TAE)
  - Transport Airplane Metallic and Composite Structures Working Group (TAE)—Transport Airplane Damage-Tolerance and Fatigue Evaluation
  - Transport Airplane Crashworthiness and Ditching Evaluation Working Group (TAE)
- New Tasks
  - Rotorcraft Occupant Protection Working Group (ARAC)
- Air Traffic Status Report from the FAA

Attendance is open to the interested public but limited to the space available. Please confirm your attendance with the person listed in the **FOR FURTHER INFORMATION CONTACT** section no later than September 10, 2015. Please provide the following information: Full legal name, country of citizenship, and name of your industry association, or applicable affiliation. If you are attending as a public citizen, please indicate so.

For persons participating by telephone, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section by email or phone for the teleconference call-in number and passcode. Callers outside the Washington metropolitan area are responsible for paying long-distance charges.

The public must arrange by September 10, 2015 to present oral statements at the meeting. The public may present written statements to the Aviation Rulemaking Advisory Committee by providing 25 copies to the Designated Federal Officer, or by bringing the copies to the meeting.

If you are in need of assistance or require a reasonable accommodation for this meeting, please contact the person listed under the heading **FOR FURTHER INFORMATION CONTACT**. Sign and oral interpretation, as well as a listening device, can be made available if requested 10 calendar days before the meeting.

Issued in Washington, DC, on August 26, 2015.

Lirio Liu,

Designated Federal Officer, Aviation Rulemaking Advisory Committee.

[FR Doc. 2015–21579 Filed 8–31–15; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA–2015–0007–N–22]

Proposed Agency Information Collection Activities; Comment Request

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Notice and request for comments.

SUMMARY: In compliance with the Paperwork Reduction Act of 1995, this notice announces that FRA is forwarding the regular Clearance and renewal information Collection Requests (ICRs) abstracted below to the Office of Management and Budget (OMB) for review and comment. The ICR describes the nature of the information collection and its expected burden. The **Federal Register** notice with a 60-day comment period soliciting comments on the following collection of information was published on May 26, 2015 (80 FR 30109).

DATES: Comments must be submitted on or before October 1, 2015.

FOR FURTHER INFORMATION CONTACT: Mr. Robert Brogan, Regulatory Safety Analysis Division, RRS–21, Federal Railroad Administration, 1200 New Jersey Ave. SE., Mail Stop 25, Washington, DC 20590 (Telephone: (202) 493–6292), or Ms. Kimberly Toone, Office of Information Technology, RAD–20, Federal Railroad Administration, 1200 New Jersey Ave. SE., Mail Stop 35, Washington, DC 20590 (Telephone: (202) 493–6132). (These telephone numbers are not toll-free.)

SUPPLEMENTARY INFORMATION: The Paperwork Reduction Act of 1995 (PRA), Public Law 104–13, sec. 2, 109 Stat. 163 (1995) (codified as revised at 44 U.S.C. 3501–3520), and its implementing regulations, 5 CFR part 1320, require Federal agencies to issue two notices seeking public comment on

AVIATION RULEMAKING ADVISORY COMMITTEE

RECORD OF MEETING

MEETING DATE: September 17, 2015

MEETING TIME: 1 p.m.

LOCATION: Federal Aviation Administration
800 Independence Avenue, SW.
10th Floor
MacCracken Conference Room
Washington, DC 20591

PUBLIC ANNOUNCEMENT: The Federal Aviation Administration (FAA) told the public of this Aviation Rulemaking Advisory Committee (ARAC) meeting in a Federal Register notice published September 1, 2015 (80 FR 52839).

ATTENDEES: **Committee Members**

Todd Sigler	The Boeing Company (Boeing), *ARAC Chair*
Dr. Tim Brady	Embry-Riddle Aeronautical University (ERAU), *ARAC Vice Chair*
Chris Baum	Air Line Pilots Association, International (ALPA)
Michelle Betcher	Airline Dispatchers Federation (ADF)
Doug Carr	National Business Aviation Association (NBAA)
Ambrose Clay	National Organization to Insure a Sound Controlled Environment (NOISE)
Mack Dickson*	Experimental Aviation Association (EAA)
Gail Dunham*	National Air Disaster Alliance/Foundation (NADA/F)
Stéphane Flori*	AeroSpace and Defence Industries Association of Europe (ASD)
Jens Hennig*	General Aviation Manufacturers Association (GAMA)

Paul Hudson	Aviation Consumer Action Project (ACAP)
Peter Ivory	Federal Aviation Administration (FAA) *Office of Aviation Policy and Plans, APO–300*
Doug Kihm*	The Boeing Company (Boeing)
Lirio Liu	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM–1* *Designated Federal Officer (DFO)*
Sarah MacLeod*	Aeronautical Repair Station Association (ARSA)
Paul McGraw	Airlines for America (A4A)
David Oord	Aircraft Owners and Pilots Association (AOPA)
Ric Peri	Aircraft Electronics Association (AEA)
Lorelei Peter	Federal Aviation Administration (FAA) *Office of the Chief Counsel, AGC−200*
Phil Poynor	National Association of Flight Instructors (NAFI)
Yvette Rose	Cargo Airline Association (CAA)
David Supplee*	International Association of Machinists & Aerospace Workers (IAMAW)
Chris Witkowski	Association of Flight Attendants (AFA)
David York	Helicopter Association International (HAI)

Attendees

Ryan Aggergaard	Modification and Replacement Parts Association (MARPA)
Jonathan Archer	General Aviation Manufacturers Association (GAMA)
Ali Bahrami	Aerospace Industries Association (AIA) *Transport Airplane and Engine (TAE) Subcommittee, Chair*

Chad Balentine	Air Line Pilots Association, International (ALPA)
Daniel Black*	Federal Aviation Administration (FAA) *Southwest Region—Rotorcraft Directorate, ASW-112*
Dale Bouffiou	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM-020*
Karen Callihan	Federal Aviation Administration (FAA) *Air Traffic Organization, AJI-231*
Jorge Castillo	Federal Aviation Administration (FAA) *Southwest Region—Rotorcraft Directorate, ASW-111*
Anthony Chu	Federal Aviation Administration (FAA) *Air Traffic Organization, AJI-231*
Martin Crane	Federal Aviation Administration (FAA) *Southwest Region—Rotorcraft Directorate, ASW-112*
Jim Crotty	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM–200*
William Ertle*	PATS Aircraft Systems
Henry Fair	Federal Aviation Administration (FAA) *Air Traffic Organization, AJI-231*
David Floyd*	The Boeing Company (Boeing)
Katherine Haley	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM–203*
Rhonda Hennig	Harris Corporation
Katrina Holiday	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM-202*
Joe Jacobsen*	Federal Aviation Administration (FAA) *Transport Airplane Directorate, ANM−113*
Randy Kenagy	Air Line Pilots Association, International (ALPA)
Sandra Lamparello	PAI Consulting

Christine Madden	Federal Aviation Administration (FAA) *Air Traffic Organization, AJI-231*
David Maddox	Federal Aviation Administration (FAA) *Air Transport Organization, AJV-113*
Bob Mattern*	Pratt & Whitney
Dorina Mihail*	Federal Aviation Administration (FAA) *New England Region—Engine & Propeller Directorate, ANE-111*
Robert Newell	Federal Aviation Administration (FAA) *Flight Standards Service, AFS-630*
Gary Norek	Federal Aviation Administration (FAA) *Air Traffic Organization, AJV-8*
Michael O'Donnell	Federal Aviation Administration (FAA) *Office of Airports Safety and Standards, AAS-1*
Steve Paasch*	Federal Aviation Administration (FAA) *Aircraft Engineering Division, AIR–130*
Susan Parson	Federal Aviation Administration (FAA) *Flight Standards Service, AFS-2*
John Piccola*	Federal Aviation Administration (FAA) *Transport Airplane Directorate, ANM−113*
Renee Pocius	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM–024*
Tony Price	Federal Aviation Administration (FAA) *Air Traffic Organization, AJI-231*
James Ranshaw*	Private Citizen
Kenneth Ready	Federal Aviation Administration (FAA) *Air Traffic Organization, AJV-115*
Brandon Roberts	Federal Aviation Administration (FAA) *Office of Rulemaking, ARM−100*
Lee Roskop	Federal Aviation Administration (FAA) *Southwest Region—Rotorcraft Directorate, ASW-112*

Sandra Shelley	Federal Aviation Administration (FAA) *Southwest Region—Rotorcraft Directorate, ASW-111*
Kerry Skofteland	Federal Aviation Administration (FAA) *Air Traffic Organization, AJI-231*

*Attended via teleconference.

WELCOME AND INTRODUCTION

Mr. Todd Sigler, ARAC Chair, called the meeting to order at 1:02 p.m. and thanked the ARAC members and the public for attending. He invited the attendees to introduce themselves. Ms. Lirio Liu, DFO, read the required Federal Advisory Committee Act, Title 5, United States Code (5 U.S.C.) Appendix 2 (2007) statement.

Mr. Sigler referenced a letter from Ms. Margaret Gilligan, Associate Administrator for Aviation Safety, FAA, (Attachment 1) recognizing Mr. Craig Bolt upon his retirement as Chair of the Transport Airplane and Engine (TAE) Subcommittee and welcoming Mr. Ali Bahrami as new TAE Chair. Ms. Liu displayed a plaque the FAA will present to Mr. Bolt to commemorate his time as TAE Chair. The letter from Ms. Gilligan also reiterated the role of the ARAC, and noted members represent their industry segment, not only their organization. Ms. Liu further noted that the ARAC only addresses tasks the FAA has assigned to the committee and subcommittees are created as expertise is needed. Ms. Liu stated subcommittees and working groups provide recommendations to the ARAC and those recommendations are for the use of the FAA, not for the advantage of ARAC participants.

Ratification of Minutes

Mr. Sigler stated the first item on the agenda is ratification of the minutes from the June 18, 2015, meeting. He asked for any revisions or amendments to the draft minutes circulated before the meeting. Without any revisions or questions, the ARAC ratified the minutes.

STATUS REPORTS FROM ACTIVE WORKING GROUPS

Airman Certification System Working Group (ACSWG) (Attachment 2)

Mr. David Oord, AOPA, provided the update for the ACSWG. He stated the ACSWG is tasked with finalizing the airman certification standards (ACS), which is a system of standards, tests, and guidance material and specific to pilot certifications. Mr. Oord noted new standards must be incorporated in guidance material and tests.

Mr. Oord reviewed developments and the work accomplished regarding ACS since the last ARAC meeting in June 2015. Mr. Oord stated the FAA ACS Exam Review Board completed its review of the draft instrument and commercial ACS, and validation is complete. Mr. Oord added the ACSWG is continuing to work on the authorized instructor ACS, which poses challenges:

student comprehension of elements, teaching the skill on the ground and in flight, and ensuring a safe outcome for the flight and instruction (risk management).

Mr. Oord stated the ACSWG has made substantial progress reviewing the private pilot and instrument flight rules (IFR) test banks. He added the FAA has archived questions that are no longer relevant. Mr. Oord indicated the ACSWG would review the air transport pilot and commercial pilot airplane question banks in 2016. He added the FAA is revising the request for proposal for the Test Management Services contract, which will ensure the coding is in place when the FAA implements the revised tests.

Mr. Oord reviewed the ACSWG's progress on guidance materials. He stated the Pilot's Handbook of Aeronautical Knowledge and the Aircraft Weight and Balance Handbook are with the contractor and will be ready during the first quarter of 2016. Mr. Oord noted the FAA is currently working with the contractor on the Risk Management Handbook. He stated the FAA is reviewing chapter 4 of the Airplane Flying Handbook, which deals with loss of control, and the ACSWG will review any changes before publication. Mr. Oord explained the Instrument Flying Handbook is with the FAA awaiting the assignment of a subject matter expert. He added the FAA will publish a new edition of the Instrument Procedures Handbook in late September 2015 with ACSWG input, and the Aviation Instructors Handbook must be restructured to align to the current standard. Mr. Oord noted the ACSWG sent the FAA recommendations for its long-term vision and short-term steps to align guidance with the standards. He stated the ACSWG is reviewing the Private, Commercial, and Instrument Rating ACS with the goal of making recommendations for new editions of guidance documents.

Mr. Oord gave an update on the ACSWG's prototyping effort. He provided details on the private pilot ACS being prototyped in Florida, noting the ACSWG has completed 41 new knowledge tests. Mr. Oord reported the ACSWG documented lessons learned and better defined its expectations. He explained the IFR ACS prototyping began in July 2015 and is set to close on May 16, 2016.

Mr. Oord stated the FAA's Flight Standards Service is adopting a formal change management process, which will ensure implementation of the ACSWG's recommendations is successful.

Mr. Oord stated the ACSWG met September 15–16, 2015, in Washington, DC, at GAMA headquarters, and the next meeting will be January 5–6, 2016, in Washington, DC, at NBAA headquarters.

Mr. Paul Hudson, ACAP, noted the 9/11 terrorists received flight training in the United States. Mr. Hudson expressed concern about students having knowledge of test questions before taking the test, along with other types of cheating. He asked if there are any requirements for English language proficiency or U.S. citizenship. Mr. Oord explained security of the testing system(s) is outside the scope of Title 14, Code of Federal Regulations (14 CFR), part 61. He noted cheating has not been a problem in the past, but students have memorized questions before taking the test. Mr. Oord stated the ACSWG's intent is to eliminate memorizing by creating tests that can be revised at any time. He added, under the new structure, questions will not be in the public domain and students cannot memorize the questions. He stated the questions test pilots' training and flight instructors ensure English language proficiency during training.

Mr. Ambrose Clay, NOISE, noted of the 41 knowledge tests completed, 37 students passed and four failed. He asked if the score distribution is available. Mr. Oord responded a score of 70 percent was required to pass the test, but he does not know the distribution of scores among the students who passed. He indicated as part of the prototype, students are given a copy of the standard at the beginning of the course. He noted that based on survey responses from applicants, instructors, and examiners, under the new format it is clear what learners need to understand and why. Mr. Oord stated instructors receive specific details on questions missed and they can review the subject of the question with the student.

Mr. Clay asked whether an instructor could change a student's score after reviewing a missed question with the student. Mr. Oord responded this was not possible. Mr. Clay asked if the ACSWG attempted to ensure a standard mix of test subjects from different training backgrounds. Mr. Oord replied the test subjects had a mix of backgrounds, from students trained at ERAU to recreational aviators.

Mr. Sigler noted the ARAC extended the ACSWG's tasking and asked if its work is on schedule. Mr. Oord stated it is.

Aircraft Systems Information Security/Protection (ASISP) Working Group (ASISPWG) (Attachment 3)

Mr. Jens Hennig, GAMA, and Mr. David Floyd, Boeing, provided the update for the ASISPWG. Mr. Hennig reviewed the task and noted the ASISPWG is currently identifying which categories of airplanes and rotorcraft any rulemaking, policy, and/or guidance should address, and which airworthiness standards any rulemaking, policy, and/or guidance should reference. He noted this includes ascertaining whether any security-related industry standards from Aeronautical Radio, Incorporated (ARINC); Federal Information Processing Standards (FIPS); the International Organization for Standardization (ISO); the National Institute of Standards and Technology (NIST); SAE International (SAE) Aerospace Recommended Practice (ARP) 4754A, Guidelines for Development of Civil Aircraft and Systems; and/or SAE ARP4761, Guidelines and Methods for Conducting the Safety Assessment Process on Civil Airborne Systems and Equipment; or the recently released RTCA standards would be appropriate for use in ASISP-related policy and/or guidance. Mr. Hennig added the ASISPWG is considering international harmonization needs with input from the European Aviation Safety Agency (EASA) and Transport Canada Civil Aviation (TCCA).

Mr. Floyd stated the ASISPWG has developed its work plan and made it available to the ARAC chair and ARM. He reviewed the technical briefings the ASISPWG has received since its formation. Mr. Floyd noted the ASISPWG is closely tracking a draft ASISP-related Notice of Proposed Amendment (NPA) EASA plans to release in early 2016, with the final rule expected in 2017. He added the ASISPWG would consider this in its international harmonization planning.

Mr. Floyd reviewed the ASISPWG's future activities, including a review of draft amendments to subpart F of 14 CFR parts 23, 25, 27, and 29. He stated the group plans to hear technical briefings from EASA, the U.S. Department of Homeland Security, and the U.S. Department of Defense.

Mr. Sigler asked if there was any group or industry activity preceding the EASA NPA, possibly by EASA's ARAC counterpart, the Safety Standards Consultative Committee (SSCC). Mr. Hennig stated EASA issued a preliminary regulatory impact analysis in 2014. He added EASA hosted a workshop to discuss institutional issues earlier in 2015 and EASA is now on an aggressive schedule. Mr. Hennig noted EASA would present a briefing at the next ASISPWG meeting.

Mr. Doug Carr, NBAA, asked if the small aircraft ad hoc overview Mr. Floyd referenced in the upcoming technical briefings is a differentiation between part 23 and part 25. Mr. Hennig replied RTCA standard DO–326A, Airworthiness Security and Aircraft Certification, supporting this task, draws a line between transport category airplanes with 20 or more seats and those with 19 or fewer seats. He noted the security threat is different for large scheduled aircraft than for small business or general aviation aircraft. Mr. Hennig noted the ASISPWG seeks to develop a proportional set of requirements for each type of aircraft, including small aircraft, rotorcraft, and large aircraft.

Ms. Sarah MacLeod, ARSA, asked what security measures the ASISPWG is studying. She noted component manufacturers produce parts for several different aircraft and asked if the ASISPWG is focusing on the interface between the aircraft and these components. Mr. Hennig responded the ASISPWG task is broad, but the general focus is a change to the airworthiness standard under subpart F of parts 23, 25, 27 and 29. He noted the ASISPWG is focusing on the instructions for continued airworthiness (ICA) requirements.

Air Traffic Controller Basic Qualification Training Working Group (ATCWG) (Attachment 4)

Mr. Tony Price, FAA, provided the update for the ATCWG, a new task assignment for the ARAC. He stated the tasking notice is set for publication in the Federal Register on September 18, 2015, and allows 30 days for member nominations. Mr. Price noted he expected the ATCWG's first meeting to occur in December 2015 or January 2016. He stated the FAA edited the tasking notice after the June 18, 2015 ARAC meeting to correct his name and title, and other small edits, which were approved by the ARAC chair.

Ms. Gail Dunham, NADA/F, stated Mr. David Boone, FAA, briefed the ARAC on the ATCWG at its June 2015 meeting, and asked where he was. Mr. Price responded he has replaced Mr. Boone as the FAA representative.

Ms. Dunham noted the ARAC discussed dividing the task into two phases at the June 2015 ARAC meeting. She stated U.S. air traffic control is the best in the world and expressed concern that changes to the training program would diminish those standards. Ms. Dunham expressed her belief that the Next Generation Air Transportation System would not affect the basic training of air traffic controllers. She noted the first page of the ATCWG tasking states training will remain at the same level as current training, but some air traffic controllers are trained in the military, which provides a different experience than those trained academically. Ms. Dunham reiterated her concerns about the impact on the quality of air traffic controller training and her desire that any new training not result in lower standards.

Mr. Sigler stated Ms. Dunham's comments are similar to those discussed at the June 2015 ARAC meeting. He noted the ARAC made edits to the tasking after a lengthy discussion, and suggested the group not revisit that discussion.

Ms. Dunham stated her concerns are still the same. She noted she is opposed to making any major changes that might affect hiring or training practices unless the ATCWG identifies a need.

Mr. Chris Witkowski, AFA, asked how long people have to apply for membership to the ATCWG. Mr. Price replied there is a 30-day application period after publication in the Federal Register. He added he expects the application period to close on October 19, 2015.

TAE Subcommittee (Attachment 5)

Mr. Doug Kihm, Boeing, provided the TAE update. He thanked Mr. Bolt for his service and wished Mr. Bahrami well running TAE in the future. Mr. Kihm stated TAE met in June 2015 and its next meeting will be in November 2015.

Airworthiness Assurance Working Group (AAWG) (TAE)

Mr. Kihm noted the AAWG co-chairs remain the same. He stated the AAWG has not met since the last ARAC meeting and its next face-to-face meeting will be in early 2016. Mr. Kihm stated the AAWG received a request from the ARAC Transport Airplane Metallic and Composite Structure Working Group (TAMCSWG). He explained the TAMCSWG requested the AAWG evaluate and make recommendations on the appropriateness of adding large damage capability in the regulation and establishing an industry approach for assessing the damage tolerance of engine rotorburst.

Mr. Kihm explained the AAWG has agreed to provide recommendations to the TAMCSWG by March 2016, which fits the overall TAMCSWG schedule.

Engine Harmonization Working Group (EHWG) (TAE)—Engine Endurance Testing Requirements—Revision of Section 33.87

Mr. Kihm noted the EHWG chair remains the same, reviewed the companies and agencies represented by group members, and discussed the meeting schedule.

Mr. Kihm referenced the extension granted to the EHWG in June 2015. He noted the tasking now runs through mid-2017 and reviewed the EHWG schedule. Mr. Kihm stated the existing test under 14 CFR § 33.87 does not work well with new modern bypass ratio engines, so a new block test is required.

Flight Test Harmonization Working Group (FTHWG) (TAE)—Phase 2 Tasking

Mr. Kihm noted the FTHWG chairs remain the same. Mr. Kihm provided a summary of ongoing FTHWG tasks and meeting dates. He reviewed six topics the FTHWG is working on—stability, steep approach landing, envelope protection, flight in icing, out of trim, and sidestick controls.

Mr. Kihm predicted the FTHWG would prepare its recommendations on stability, steep approach landing, envelope protection, flight in icing, and out of trim by December 2015 and sidestick controls in June 2016.

Mr. Sigler noted out of trim and sidestick controls are new topics for the FTHWG and asked if they are within the scope of the FTHWG's tasking. Mr. Kihm replied the FTHWG has a broad tasking and they do fall under the scope. He noted the FAA currently manages both topics using special conditions and the FTHWG wants to create guidance or rulemaking as appropriate.

Materials Flammability Working Group (MFWG) (TAE)

Mr. Kihm stated the chair remains the same. Mr. Kihm reviewed the MFWG team members, noting the wide range of entities represented. He discussed the original MFWG tasking, which concluded with the submission of a recommendation report to the FAA in 2012.

Mr. Kihm stated the FAA assigned the MFWG with a new tasking, requesting better definition of the intended results of the proposed regulatory updates and cost-benefit analysis for the 2012 recommendations. He noted the MFWG would not meet the September 18, 2015, deadline. Mr. Kihm added the MFWG would complete its recommendation report by the end of September 2015, which will give TAE enough time to review it before its November 2015 meeting.

Transport Airplane Metallic and Composite Structure Working Group (TAMCSWG) (TAE)—Transport Airplane Damage—Tolerance and Fatigue Evaluation

Mr. Kihm stated this is a relatively new tasking for the TAE. Mr. Kihm noted the TAMCSWG asked the AAWG to review the large damage capability and engine rotorburst policy tasks, and the AAWG plans to provide the TAMCSWG its recommendations in March 2016.

Mr. Kihm stated the TAMCSWG will now focus on the composite topics. He reviewed the meeting schedule and noted the TAMCSWG was currently meeting in Montreal. Mr. Kihm added the TAMCSWG submitted its draft work plan to TAE for approval on July 20, 2015 and it calls for recommendation report submittal in January 2017. He explained although TAE has not yet approved the work plan, the TAMCSWG continues to work according to that plan. Mr. Kihm stated TAE would discuss the plan at its November 2015 meeting.

Transport Airplane Crashworthiness and Ditching Evaluation Working Group (TACDWG) (TAE)

Mr. Kihm stated this is a new working group created to advise the FAA on what airframe-level crashworthiness and ditching standards should be incorporated into part 25 and any associated advisory material.

Mr. Kihm noted the TACDWG was given a 24-month tasking beginning in June 2015. He stated he did not believe the FAA had selected the members or co-chairs yet. Mr. John Piccola, FAA, explained he has identified the TACDWG members and they will meet soon.

Ms. Yvette Rose, CAA, asked whether the TAE working group deadlines reflect the dates the reports must be submitted to the TAE or to the ARAC. Ms. Liu stated the agenda due dates reflect the dates the reports are due to the FAA. Mr. Bahrami and Mr. Sigler agreed the TAE would review the due dates and determine when the working group reports must be submitted to the TAE.

Mr. Hudson noted it takes 1–2 years or longer for a working group to review the issues assigned to it. He expressed his desire to see some tasks completed in a shorter timeframe. Mr. Hudson sought a policy statement from the FAA advocating shorter timelines whenever possible. He noted currently there are applications to lengthen working group timelines, but there are none to shorten working group timelines.

NEW TASK

Rotorcraft Occupant Protection Working Group (ROPWG) (Attachment 6 and 7)

Mr. Martin Crane, FAA, briefed the ARAC on a proposed tasking to form the ROPWG. He stated while the number of rotorcraft accidents has declined over the past 30 years, fatal rotorcraft accidents and fatalities has remained relatively constant. Mr. Crane noted the FAA Rotorcraft Directorate believes slow incorporation of occupant protection and safety improvements has prevented reduction of fatal accidents.

Mr. Crane stated the Rotorcraft Directorate adopted requirements for safety improvements such as dynamic seats and crash-resistant fuel systems approximately 20–25 years ago, but the requirements only apply to newly type certificated helicopters. He stated 16 percent of the U.S. helicopter fleet has crash-resistant fuel systems, and 10 percent of the U.S. fleet incorporates increased blunt force trauma protection.

Mr. Crane presented charts depicting accident data for U.S.-registered rotorcraft over the past 30 years, noting the number of accidents has gradually decreased, while the number of fatal accidents has remained relatively stable. He stated the percentage of rotorcraft accidents involving one or more fatalities has fluctuated widely around an overall rate of roughly 17 percent over the same period. Mr. Crane stated over the past 10 years, the rotorcraft fatal accident rate has remained relatively steady, with the exception of a notable spike in 2013, when the fatal accident rate of 1.25 accidents per 100,000 flight hours exceeded the FAA's target of 1.04 accidents per 100,000 flight hours for general aviation.

Mr. Crane stated in 2013 the Rotorcraft Directorate and the FAA Civil Aerospace Medical Institute (CAMI) conducted a study of the cause of death in fatal rotorcraft accidents, based on autopsy data from 97 helicopter accidents occurring between 2008 and 2013. He stated the analysis examined the contribution of post-crash fires to the fatal accidents for rotorcraft with and without crash resistant fuel tanks. He noted the analysis also included a statistical comparison of frequency of injury patterns from blunt force trauma to those seen in previous research. Mr. Crane stated for part 27 rotorcraft accidents where a fully crash resistant fuel system was not installed, post-crash fires were present in 39 percent of fatal accidents and contributed to fatalities in 20 percent of those accidents. He noted rotorcraft designs might also

be certificated under part 29. Mr. Crane added the data indicated there are no significant differences between different makes and models of helicopter.

Mr. Crane stated a review of skeletal and organ injury patterns indicated no statistically significant change over a 10-year period. He noted the most frequently cited injuries were to the core body region and head. Mr. Crane stated if incorporated into the helicopters involved in the accidents, the body protection and head impact requirements of §§ 27.562 and 29.562 would have offered increased protection and could have prevented some fatalities.

Mr. Crane stated since the requirements of parts 27 and 29 for increased protection from blunt force trauma went into effect in 1989, there have been approximately 4,200 rotorcraft accidents, involving approximately 9,000 total occupants. He stated only 2 percent of the rotorcraft involved in those accidents met the current requirements. Mr. Crane noted the remaining 98 percent of rotorcraft involved in accidents carried approximately 8,800 occupants, of which over 1,300 were fatally injured.

Mr. Crane stated the FAA and the National Transportation Safety Board (NTSB) recently issued safety recommendations to require (after January 1, 2020, in the case of the FAA recommendation) all newly manufactured rotorcraft to be equipped with crash-resistant fuel systems, regardless of the date of original design certification. He stated the proposed ROPWG would respond directly to the safety recommendations.

Mr. Crane stated the majority of rotorcraft currently in production are older type designs or derivative designs, and as such, are not required to incorporate the safety enhancements specified in the existing regulations. He noted these safety enhancements include crash-resistant fuel systems, dynamic seat systems, and structural designs such that a survivable volume is maintained and items of mass are restrained to prevent harm to passengers and crewmembers when subjected to loads within specified limits.

Mr. Crane stated under the tasking proposed by the Rotorcraft Directorate, the ROPWG would—

- Recommend how occupant protection standards should be made effective for newly manufactured rotorcraft;
- Develop an associated cost-benefit analysis; and
- As a follow-on task, recommend how to incorporate improvements and standards in rotorcraft occupant protection into the existing rotorcraft fleet.

Dr. Brady asked why the FAA had not foreseen the need to incorporate the safety enhancements in newly manufactured rotorcraft when it promulgated the current rules. Mr. Crane stated absent a known safety issue, the FAA generally permits manufacturers to continue manufacturing type designs certificated prior to the effectiveness of new design requirements. He noted the FAA has previously prescribed retroactive design requirements, such as the shoulder harness requirements of §§ 27.2 and 29.2, which is one way to address the issue at hand.

Mr. Clay indicated he agrees with the goal of the tasking. He asked why the number of fatal accidents has remained stable while the overall number of accidents has decreased. He noted this is potentially indicative of a problem unrelated to occupant safety enhancements, and asked

whether this indicates the severity of errors made by rotorcraft flightcrew members is increasing. Mr. Crane stated the ROPWG could look into this question, but noted the objective of the proposed tasking is to improve survivability of accidents that do occur. Mr. Lee Roskop, FAA, noted the International Helicopter Safety Team (IHST) set a goal in 2006 to reduce helicopter accidents by 80 percent. He stated the IHST and its members believed as overall accidents decreased, they would observe a commensurate reduction in fatal accidents. Mr. Roskop noted the IHST believes the lack of such a reduction in the fatal accidents warrants a more direct approach to improving accident survivability.

Mr. Hennig noted to accomplish the objectives of the proposed tasking with respect to retroactive applicability, it would be necessary to amend § 21.101 or to expand the applicability of part 26 to non-transport category airplanes. He stated there are established, if frequently debated, certification procedures for products, and suggested amending the proposed tasking to explicitly reference those provisions. Mr. Jorge Castillo, FAA, noted the tasking is not specifically focused on § 21.101. He explained there appears to be resistance in the rotorcraft community to modifying existing certificated rotorcraft to incorporate the safety enhancements described, for fear the FAA will require an applicant to comply with all current requirements. Mr. Castillo observed the result of this perception has been a hesitance to incorporate incremental improvements in those areas. He stated the Rotorcraft Directorate is in the process of amending the relevant advisory circular to establish a clear delineation between modifications that would trigger such a requirement and those that would not. Mr. Castillo noted the goal of these amendments is to eliminate uncertainty and ensure standardization among aircraft certification offices, and to encourage modifications that enhance safety, even if they do not result in full compliance with current requirements.

In response to a question from Mr. Stéphane Flori, ASD, to clarify items 1 and 4a of the tasking, Mr. Crane stated the language of the proposed tasking is broad enough to permit the ROPWG to propose new certification standards, or to propose modifications to the existing standards in parts 27 and 29. Mr. Castillo noted the tasking recognizes the current standards with respect to occupant seating, structural occupant protection, and crash-resistant fuel systems are effective measures addressing known risks. He stated when the current standards were promulgated, the Rotorcraft Directorate assumed they would be implemented in the fleet over time by the emergence of new rotorcraft models or by modifications to existing model designs. Mr. Castillo noted this assumption has been proven incorrect.

Mr. Sigler referenced the language in paragraph 1 of the proposed task, which cites specific sections of parts 27 and 29. He asked whether the language was overly prescriptive and could be read to limit the ROPWG to working with the standards contained in those sections, thereby foreclosing the opportunity to identify different, equally effective standards. Mr. Castillo stated the Rotorcraft Directorate believes the existing standards contained in parts 27 and 29 are valid and effective. He stated the purpose of the tasking is not to examine the content of the standards, but to seek ways to encourage broader implementation of them.

Ms. Dunham expressed support for the proposed tasking. She noted there had been an ARAC subcommittee focused on rotorcraft issues in the past, and suggested a review of that subcommittee's activities and membership. Ms. Dunham confirmed the ROPWG tasking includes emergency medical helicopters. She observed that helicopter emergency medical

services operations often take place in adverse weather conditions, and therefore have an inherent increased accident risk, which must be considered when reviewing the CAMI study. Mr. Castillo stated the Rotorcraft Directorate had reviewed the activities of the ARAC Rotorcraft Subcommittee, and the director of the Rotorcraft Directorate had participated in the subcommittee.

Mr. Hudson expressed shock and dismay with the reported findings and the prospect of a further 2 years without implementation of known safety enhancements. He stated the reported statistics indicate approximately 160 accidents per year, with approximately one fatality per week. Mr. Hudson noted if applied to commercial air carrier operations, the same rates would equate to thousands of accidents per year, with over 1,000 accidents with fatalities. He stated he opposed the ARAC's acceptance of the proposed tasking, and recommended the FAA publish a notice of proposed rulemaking (NPRM) mandating adherence to the current standards. Mr. Hudson noted this would provide industry the opportunity to comment or suggest alternatives, while addressing the problem in a shorter time than formation of the ROPWG.

Ms. Liu stated by proposing the tasking, the FAA intends to obtain additional data from the rotorcraft industry. She noted the IHST, like the Commercial Aviation Safety Team, recognizes the need for industry involvement and support in addressing safety issues. Ms. Liu suggested immediate publication of an NPRM would not be a successful strategy because the FAA does not have adequate data to justify the costs associated with retrofitting the existing rotorcraft fleet.

Mr. David York, HAI, noted the proposed tasking does not represent an attempt to avoid appropriate action. He reiterated the IHST's assumed that efforts to reduce the overall rotorcraft accident rate would also reduce the fatal accidents. Mr. York noted the CAMI study provided the first detailed data on causes of death in rotorcraft accidents, clarifying the need for action. He stated the availability of that data and recognition of the effectiveness of the current standards would inform the ROPWG's future efforts. Mr. York noted the rotorcraft industry expects to be fully engaged in efforts to improve the fatal accident rate.

In response to a question from Dr. Brady, Mr. Crane clarified that the ROPWG will make recommendations regarding retrofitting existing aircraft only after it has delivered its recommendations regarding implementing current safety standards in newly manufactured aircraft.

Mr. Ric Peri, AEA, noted the chart presented to the ARAC comparing the rotorcraft fatal accidents to the overall accidents is somewhat misleading. He stated the data indicates a reduction of 45 to 50 percent in accidents. Mr. Peri stated the chart caption indicates the fatal accidents have not changed over the same period, but the data indicates a reduction in fatalities of approximately 35 percent. He stated while this still represents a need for improvement, the number of fatalities is not static.

Mr. Peri stated he is in favor of using §§ 27.2 and 29.2 to mandate incorporation of safety enhancements in newly manufactured rotorcraft when such use is appropriate, and stated the ROPWG should evaluate such action. He noted the current safety standards cited in the proposed tasking are 20–25 years old, and recommended the ROPWG consider the possibility of performance-based standards, which may be incorporated into existing designs in a more

cost-effective fashion. Mr. Peri argued § 21.101 is not an appropriate vehicle for effecting the desired result, as it is oriented toward the retention of an earlier standard when an applicant seeks a change to a type certificate. He stated he supports the task fundamentally and the concept of incrementally increasing the safety standards applicable to newly manufactured aircraft, but expressed doubt this objective could be achieved without imposing a significant administrative burden on applicants.

Mr. Hudson stated he could see no justification to delay closing the loophole permitting new aircraft to be manufactured using designs not compliant with the current safety standards. He noted the IHST's goal of reducing overall rotorcraft accidents by 80 percent apparently has not been met. Mr. Peri objected to the characterization of the provisions of the aircraft certification regulations as a loophole of which manufacturers are taking advantage. He stated the intent of the regulations applicable to certification of all types of aircraft has consistently been to apply current standards only to new type designs.

Mr. Hudson observed the fatal accident rate for rotorcraft meeting the current safety standards is exceedingly low, and reiterated his support for mandating immediate compliance with current standards. He also questioned the need for the 2-year timeframe specified in the tasking, and recommended, if the ARAC deemed it necessary to proceed with the tasking, its timeframe be significantly shortened to 6 months. Mr. York stated it is possible to reduce the timeframe for the tasking, but it would take time to assemble the ROPWG and gather data necessary to develop recommendations. Ms. Liu noted the tasking provides for submission of an initial report no later than 18 months from publication of the tasking notice, and the ROPWG could submit its report earlier than that date.

Ms. MacLeod noted there are two ways to retroactively apply a safety standard: 1) by mandating compliance with the new standard for all newly manufactured aircraft, regardless of the date of type certification, as done in 14 CFR §§ 27.2 and 29.2; or 2) by issuing airworthiness directives (AD) requiring retrofit of existing fleet, which must be supported by a safety analysis for each type of aircraft or similar aircraft. She stated a key question will be how many aircraft would be affected by each of the two options. Ms. MacLeod asked whether manufacturers are producing significant numbers of the rotorcraft in question, and noted if they are not, any significant change would require retrofitting existing rotorcraft pursuant to ADs. She noted many of the rotorcraft in question are operated by small businesses, which will complicate any rulemaking effort.

Ms. Liu stated the tasking was written broadly enough for the ROPWG to examine different options for improving fatal accidents, including amending §§ 27.2 and 29.2 or amending operating rules. She noted paragraph 1 of the proposed task could be modified to reference the regulatory sections containing the existing standards, but also noted the possibility of implementing performance-based standards, which would address Mr. Flori and Mr. Peri's concerns. Mr. Castillo recognized concerns regarding the timeframe of the tasking. He noted modifying the tasking to include evaluating the current standards and developing recommendations with respect to performance-based standards would make the tasking more complex, and likely would extend the amount of time needed to complete it. Mr. Witkowski agreed, and stated it would take years to develop performance-based standards.

Mr. Sigler expressed support for giving the ROPWG latitude to consider alternate means to achieve its objective. He stated options that do not involve compliance with the existing standards might allow the industry to achieve the desired result at costs more likely to satisfy the executive review process. Mr. Peri noted the FAA might find some of the current standards, particularly those contained in §§ 27.562, 27.595, 29.562, and 29.595, cannot be retrofitted to existing designs. He added that in that case, the costs of requiring adherence to those sections cannot justify benefits. Mr. Peri stated a performance-based standard could provide manufacturers an opportunity to meet the standard within the constraints of existing designs.

Mr. Sigler and Ms. MacLeod again discussed the separation in the draft tasking of recommendations relating to newly manufactured aircraft and those relating to retrofit of existing aircraft. Ms. MacLeod suggested the tasking more explicitly require the ROPWG to examine the numbers and types of certificate holders that would be affected by actions based on the ROPWG's recommendations under each part of the tasking. She recommended the ROPWG address this as a threshold matter before considering the more technical aspects of the tasking.

Mr. Sigler suggested the work of the 14 CFR Part 23 Reorganization Aviation Rulemaking Committee, including any regulatory language drafted by it, could be instructive, because its objective was to develop recommendations regarding a transition from prescriptive certification standards to performance-based standards. Mr. Crane observed many occupant safety rules, such as those involving passenger access to exits, had been adapted from rules in part 25, and are not well adapted to rotorcraft. He noted opportunities to apply performance-based concepts to those standards. Mr. Crane expressed concern that expanding the ROPWG's tasking to also consider performance-based standards would significantly extend the timeframe of the tasking.

Mr. Sigler noted the suggested revision to paragraph 1 to grant the ROPWG more latitude in considering alternative solutions, and asked for any other requested revisions to the draft tasking. Mr. Hudson reiterated his request to shorten the timeframe to 6 months. Mr. Sigler and Mr. Hennig expressed doubt the timeframe of the process could be significantly shortened. Mr. Hennig stated the scope of the tasking is relatively broad and the FAA has not previously sought this level of input on how to implement safety standards. He added the ROPWG should not be rushed.

Mr. Sigler noted the tasking does not address harmonization considerations, and asked if there are any. Mr. Castillo stated the existing part 27 and part 29 rules are largely harmonized with EASA and TCCA. In response to a question from Mr. Peri, Mr. Castillo stated revisions to §§ 27.2 and 29.2 would have to be harmonized as well. He noted the Rotorcraft Directorate meets biannually with representatives of EASA and TCCA, and has been discussing rotorcraft occupant safety with them for approximately the past year.

Mr. Sigler and Mr. Peri discussed whether the language of the tasking, without revisions, permits the ROPWG latitude to consider performance-based standards or other alternatives. Mr. Sigler stated the tasking, as written, does not preclude such consideration, but the language of the tasking and the FAA's statements indicate an intent for the ROPWG to limit its recommendations to the existing standards.

Mr. Bahrami noted the tasking calls for the ROPWG's recommendations on how to make occupant protection standards effective with respect to newly manufactured and existing rotorcraft. He concurred with Ms. MacLeod's statement that there are a limited number of methods for making standards effective. Mr. Bahrami stated the real issue is an assessment of costs and benefits associated with those methods. He suggested a phased approach, under which the ROPWG would first, on a relatively short timeframe, conduct a cost-benefit analysis of requiring compliance with the current standards. Mr. Bahrami stated if that analysis indicates the benefits do not justify the costs, the ROPWG could examine alternative courses of action, including extending the time needed to undertake work that is more complex. Mr. Castillo expressed support for this approach, noting it would reduce uncertainty.

Mr. Bahrami asked if any of the fatal accidents included in the CAMI study had led to the issuance of an AD with respect to a particular model of rotorcraft. Mr. Crane stated the FAA had not issued any ADs. Mr. Castillo stated the FAA had begun examining occupant safety standards in response to inquiries from other countries regarding the possible issuance of ADs. He noted analysis did not indicate any specific model not incorporating the current standards had a fatal accident rate significantly higher or lower than other models. Mr. Castillo stated pursuing action through ADs would require issuance of ADs affecting 90 percent of the rotorcraft fleet.

Mr. Hennig drew a distinction between use of ADs to raise the safety of a product and using them to restore the safety of a product. He noted the FAA typically uses ADs to restore safety, not to raise safety levels. Mr. Hennig noted the objective in this case appears to be to raise the safety level of rotorcraft, which would represent a significant leap from past AD issuances. Mr. Castillo confirmed the objective is to raise safety standards, which is one reason the FAA did not consider issuance of ADs to be appropriate. Ms. MacLeod pointed out the FAA had previously used ADs to raise fleet safety standards, when it used ADs to raise fire-resistance standards.

Ms. Dunham moved to accept the tasking, subject to receipt of quarterly reviews on the progress of the ROPWG. Mr. Sigler noted several ARAC members had expressed a desire for revisions to paragraph 1 of the task to permit consideration of standards other than those contained in the enumerated sections. He asked whether the ARAC members believed a follow-up acceptance of the revised tasking by email would be satisfactory.

Mr. Peri stated more significant revisions to the tasking were needed. He suggested the first tasking be to conduct a cost-benefit analysis of a rulemaking amending §§ 27.2 and 29.2 to mandate adherence to the existing safety standards for all newly manufactured rotorcraft. Mr. Peri stated the second tasking, which could be started concurrent with the first, would be development of recommendations on how to improve safety in the production fleet through performance-based standards if the benefits of such a rulemaking are determined not to justify the associated costs. Mr. Castillo endorsed this approach. Mr. Sigler asked why the ROPWG would create performance based standards for §§ 27.2 and 29.2 in lieu of making changes to existing regulations if the cost-benefit analysis falls short. Mr. Castillo indicated the FAA would still make changes to the existing regulations.

Mr. Hudson reiterated his opposition to accepting the tasking with the proposed timeframe, and recommended the FAA examine options such as issuance of ADs to reduce the rotorcraft fatal

accidents. Ms. Liu noted issuance of ADs would nevertheless require a deliberate rulemaking process, including gathering data, which would require industry support. She suggested the first step would still be an ARAC tasking. Ms. Liu noted the timeframe of the revised tasking could possibly be expedited. Mr. Sigler and Ms. Dunham also expressed support for moving forward with a tasking.

Mr. Hudson asked if information on what specific rotorcraft makes and models do not comply with current safety standards would be available under the Freedom of Information Act of 1966, 5 U.S.C § 552. He noted such data would allow passengers in those rotorcraft to better inform themselves of the risks they face. Mr. Roskop and Mr. Castillo indicated information on makes and models have not incorporated modifications may be found on type certificate data sheets (TCDS), which are freely available online, and noted the FAA Aircraft Registry provides information on how many of each make and model are registered. Ms. MacLeod noted gathering this information would be a necessary step in the development of a cost-benefit analysis. Mr. York stated some rotorcraft may incorporate safety features that provide enhancements over the standards applicable at the date of original type certification, but that do not satisfy the requirements of the later standards. Mr. Castillo agreed, and noted this information would not be in the TCDS. He stated it is not possible to quantify the extent to which such aircraft are enhanced over the standards applicable as of their type certification date.

Mr. Sigler summarized the revisions to the proposed tasking desired by the ARAC, consisting of a phased approach including an initial cost-benefit analysis of application of current standards via §§ 27.2 and 29.2; an analysis of application of other standards, including performance-based standards; and an analysis of possibilities for fleet retrofit. He stated the ARAC members should expect to receive a revised tasking for review and approval by email, and encouraged them to carefully review it and voice any concerns. Mr. Sigler noted if any concerns that are raised fall outside the scope of the discussion at the meeting, approval of the tasking would have to wait until the next ARAC meeting.

The ARAC provisionally accepted the proposed tasking subject to email acceptance of the revisions discussed.

FAA UPDATE

Ms. Liu stated the read-ahead materials for the meeting included a list of future ARAC proposed taskings resulting from the Fiscal Year 2016 (FY16) rulemaking prioritization activity, and encouraged the ARAC members to review them (Attachment 8). She sought feedback from remote participants on the usability of the meeting Webcast and the audio quality of the teleconference. Ms. Liu reminded the members to copy the ARAC email on all email correspondence relating to ARAC business, and advised the committee Web site includes information on ARAC taskings and recommendation reports.

Ms. Liu announced the next ARAC meeting will be held December 17, 2015; with subsequent meetings March 17, 2016; June 16, 2016; September 15, 2016; and December 15, 2016.

ADJOURNMENT

Mr. Sigler adjourned the meeting at 3:22 p.m.

ACTION ITEMS

Action Item	Responsible Party
Review the TAE working group due dates and determine when the recommendation reports must be submitted to the TAE to meet the tasking deadlines.	Ali Bahrami
Revise the ROPWG tasking to incorporate edits the ARAC has discussed and coordinate for acceptance via email.	FAA

Approved by: _____
Todd Sigler, Chair

Dated: 11/5/2015

Ratified on: 12/17/15

U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., SW
Washington, DC 20591

Date SEP 0 4 2015

Dear ARAC and TAE Representatives and Alternates and Working Group Members,

On September 17, 2014, the Federal Aviation Administration (FAA) renewed the Aviation Rulemaking Advisory Committee (ARAC) Charter and Bylaws. I want to thank all of you for your service on this committee. I am always struck by your willingness to volunteer your efforts too enhance aviation safety.

As we approach the one year mark, I want to thank Craig Bolt for his outstanding leadership and welcome Ali Bahrami as Chair of the TAE. It is also a good time to highlight the scope and role of the ARAC and TAE member representatives, alternates and working group members.

The ARAC oversees the administration of subcommittee and working group activities. It provides advice and recommendations to the FAA concerning rulemaking activities, such as aircraft operations, airman and air agency certification, airworthiness standards and certification, airports, maintenance, noise, and training. It is only permitted to undertake tasks assigned by the FAA.

If multiple tasks need the same technical expertise, the FAA, in consultation with the ARAC, may create a subcommittee. When the FAA tasks the ARAC, the ARAC or subcommittee manage the task and the working group comprised of subject matter experts who volunteer to support the assigned task. Working and task group meetings are not open to the public but non-working group members may attend by invitation. Subcommittees and working groups provide recommendations and advice to the ARAC for deliberation, discussion, and approval of the ARAC. The recommendations are submitted to and for the use of the FAA and not for the advantage of the ARAC member representatives and alternates.

As a member representative, alternate or working group member, you represent your organization and industry segment. You attend meetings, lend your expertise and participate in working groups, when appropriate. Remember that tasks and recommendations are exploratory and pre-decisional and should not be discussed outside of the ARAC.

The FAA values the input of the ARAC and your participation as a member representative and alternate. The ARAC affords the regulated community an early opportunity to provide advice and recommendations about important safety initiatives that affect the aviation industry.

For further detail, refer to the enclosed ARAC Charter and Bylaws. If you have any questions, please contact Ms. Renee Pocius, the ARAC Coordinator, at 202-267-5093 or Renee.Pocius@faa.gov.

Sincerely,

Margaret Gilligan
Associate Administrator for Aviation Safety

Enclosures

Aviation Rulemaking Advisory Committee

Airman Certification Work Group Update

- **Work Accomplished and Developments since last briefing**
  - **Airman Certification Standards**
    - Instrument Rating ACS
      - FAA validation complete
    - Commercial ACS
      - FAA validation complete
    - Authorized Instructor ACS
      - Knowledge – student comprehension of elements
      - Skill – teaching the practice both on the ground and in flight
      - Risk Management – ensure safe outcome for the flight and the instruction
  - **Testing**
    - Substantial progress on both PVT and IFR test banks
    - ATP and COM Airplane question banks review in 2016
    - Test Management Services
      - FAA revising RFP for Test Management Services contract
      - Key to new coded questions and feedback
  - **Guidance**
    - Pilots Handbook of Aeronautical Knowledge
      - Closed out – content with contractor; ready first quarter 2016
    - Risk Management
      - Closed out – working with contractor
    - Airplane Flying Handbook
      - Chapter 4 on loss of control being reviewed at FAA
      - WG to review before publication
    - Weight and Balance
      - At contractor; ready first quarter 2016

- Instrument Flying Handbook
    - With FAA – waiting to assign to SME
- Instrument Procedures Handbook
    - New edition published later this month with WG input
- Aviation Instructors Handbook
    - Needs restructuring in order to align handbook to standard
- WG sent FAA recommendations for
    - Long-term vision
    - Short-term steps for getting there for all FAA guidance documents (i.e. new editions and production plans going forward).
- WG reviewing Private, Commercial, and Instrument ACS in relation to current guidance documents for the purpose of getting ahead of the curve, with recommendations for new editions of guidance documents.

- **Prototyping Effort**
    - Second prototype phase compete
        - Lessons learned documented
            - More communication
            - Expectations better defined
        - Expectations better defined
            - Awareness and education
            - Set expectations
            - Accountability
        - Schools Enrolled - 10
            - Part 61 and 141
        - Students - 86
        - Knowledge Tests completed – 41
            - Pass – 37
            - Fail - 4
    - Third prototype phase just started - IFR ACS
        - Kicked off last month is Seattle and Orlando
            - Enthusiastic response
            - Real world training in IMC

- New region, FSDOs , and schools
- Closing date scheduled – May 16, 2016

- **Change Management**
  - FAA adopting formal change management project to ensure successful rollout of ACS
- **Next Meetings**
  - September 15-16, 2015, GAMA, DC
  - January 5-6, 2016, NBAA, DC
  - May 3-4, 2016, NBAA, DC

Submitted on behalf of the ACS working group

September 1, 2015

By

David Oord

Vice President, Regulatory Affairs

Aircraft Owners and Pilots Association

ACSWG Chair

Aircraft Systems Information Security / Protection (ASISP) Working Group

ARAC Update

David Floyd, Boeing, Co-Chair
Jens C. Hennig, GAMA, Co-Chair

September 15, 2015

ASISP WG Task

- The general task of the ASISP WG is to recommend in a report whether ASISP-related rulemaking, policy, and/or guidance on best practices are needed and, if so, where in the current regulatory framework these would be placed. In doing so, the WG will:
  - Provide rationale for its recommendations;
  - Identify
    - which categories of airplanes and rotorcraft such rulemaking, policy and/or guidance should address, and
    - which airworthiness standards such policy and/or guidance should reference;

ASISP Task (ctd.)

- Ascertain whether security-related industry standards from ARINC, FIPS, International Standards Organization (ISO), NIST, SAE ARP 4754a and/or SAE ARP 4761 would be appropriate for use in ASISP-related policy and/or guidance; and

- Consider international harmonization needs.

Schedule

- ARAC Approved Terms of Reference December 2014
- Federal Register Notice February 3, 2015
  - Membership by March 5th

- Meetings
  - June 23-25, 2015, Seattle, WA
  - September 29-October 1, 2015, Washington, DC
  - November 17-19, 2015, Seattle, WA
  - January 19-21, 2016, Philadelphia, PA
  - March 22-24, 2016, Seattle, WA
  - TBD
  - TBD

- Report Due: 16 Months from Start (August 2016)

Membership

David Floyd, Boeing (Co-Chair)	Jens Hennig, GAMA (Co-Chair)
Steven C. Paasch, FAA (DFO)	Katie Haley, FAA (ARM)

Company	Name	Company	Name
Airbus	Romuald Salgues	GE	Mark Gulik, Dave Pierce (O)
American Airlines	Maurice Ingle	GoGo Air	Anthony Beck
Astronautics	Bernie Newman	Gulfstream	Wendy Sullivan
AFA	Dinkar Mokadam (O) Chris Witkowski (O)	Honeywell	Dan Johnson, Ben Morrow
ASTM	Christine DeJong (O)	Panasonic	Steven Bates
Bell Helicopter	Randall Johnson	Rockwell Collins	Patrick Morrissey
Boeing	Eric Lieberman (O)	RTCA	Karan Hofmann (O)
Dassault	Philippe Marquis	Sagem	Frederic Caro, Lionel Robin
DOD	Steve Hofmann (O)	SAE	Bruce Mahone (O)
DHS	Lisa Kaiser (O)	TCCA	Marc Lord (A)
EASA	Cyrille Rosay (A)	Textron	Kevin Meier
Fed Ex	Brian Brown	Thales	Cyrille Marchand, Cedric Le May (O)
Embraer	Claudio H. de Castro, Ricardo Hachiya (O)	United Airlines	Phil Hardy
Free Flight	John DeBusk	USCG	Jeffery Dorwart (O)
GAMA	Jonathan Archer (O)	FAA	AIR, AFS, ATO Representatives (A)
Garmin	Mitch Trope, Alan Blood (O)		

ASAIP Working Group Workplan

- Committee has developed the plan and it is available to ARAC Chair and ARM

Technical Briefings

- FAA ASISP Overview and TOR Guidance
- FAA ASISP in Context of CNS-ATM
- TCCA Use of Special Conditions
- EASA Overview (Postponed)
- Existing Standards Overview
- A-ISAC
- Small Aircraft Ad hoc Overview

Watch Items

- EASA planning to release draft ASISP-related NPA in 1Q2016 and the Final Rule in 2017.
  - Will need to account for this to maintain harmonization expectations.

Next Steps

- Review of Draft Subpart F Language
- Technical Briefings by
  - EASA
  - DHS
  - DOD

[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee - New Task

AGENCY: Federal Aviation Administration (FAA), DOT.

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

SUMMARY: The FAA assigned the Aviation Rulemaking Advisory Committee (ARAC) a new task to provide recommendations on how the agency can utilize external training providers for its new-hire air traffic controller training program. The ongoing modernization of the air traffic control system, NextGen, will continually introduce advanced tools and procedures to enhance the safety and efficiency of the National Airspace System. Controllers will continue to need to know basic air traffic control skills but will also need to understand how to operate in the future operational environment. The FAA seeks to transform the air traffic controller training structure by shifting the Agency's focus from basic air traffic control qualification training to training the certified controller work force on advanced NextGen tools and procedures. This would mirror the changes that were required in the pilot community. The Agency is exploring alternative options to utilize external training provider capabilities that would expose prospective air traffic controllers to the profession. It would also provide a level of training commensurate to the current Air Traffic Basic Qualification Training, before or during the FAA controller hiring process. This notice informs the public of the new ARAC activity and solicits membership for the new Air Traffic Controller Basic Qualification Training Working Group.

FOR FURTHER INFORMATION CONTACT: Tony Price, Federal Aviation Administration, Technical Training Policy and Requirements Specialist, FAA Air Traffic Organization, AJI-232, 800 Independence Avenue, SW, Washington, DC, 20591, e-mail Tony.Price@faa.gov, telephone (202) 267-1443.

SUPPLEMENTARY INFORMATION:

ARAC Acceptance of Task

As a result of the June 18, 2015 ARAC meeting, the FAA assigned and ARAC accepted this task establishing the Air Traffic Controller Basic Qualification Training Working Group. The Air Traffic Controller Basic Qualification Training Working Group will serve as staff to the ARAC and provide advice and recommendations on the assigned task. The ARAC will review and accept the recommendation report and will submit it to the FAA.

Background

The FAA established the ARAC to provide information, advice, and recommendations on aviation related issues that could result in rulemaking to the FAA Administrator, through the Associate Administrator of Aviation Safety.

The ongoing modernization of the air traffic control system, NextGen, will continually introduce automation tools to enhance the safety and efficiency of the National Airspace System. Fully certified controllers are required to maintain proficiency while also completing additional training to understand how to provide service as the operational environment evolves. To achieve this required integration, the FAA seeks to transform the air traffic controller basic qualification training structure. The Agency is looking for opportunities to utilize external training provider capabilities to expose prospective air traffic controllers to the profession and to provide a basic

level of training commensurate with the current level for Air Traffic Control Basic Qualification Training, before or during the FAA controller hiring process. The FAA seeks feedback from external stakeholders on how the agency can accomplish its goals.

The Task

The Air Traffic Controller Basic Qualification Training Working Group will provide to the ARAC an analysis on options for external training provider solutions that restructure the FAA air traffic controller candidate pipeline. Additional considerations include whether a certificated external training program modeled after Part 141 or Part 142 of Title 14 of the Code of Federal Regulations is a way to accomplish agency goals. The recommendations may propose additional alternatives that result in a candidate pipeline with knowledge and skills above the current basic qualification requirements. The Working Group should provide an initial report summarizing the analysis. If the FAA concurs with the recommendation, the tasking may be extended to include a cost and benefit analysis and an evaluation of any necessary rulemaking requirements for implementation.

1. For background information on the topic, the Working Group should review:
    a. Air traffic technical training and credentialing programs (for example, FAA Order 3000.22, FAA Order 3120.4, FAA Order 7210.3, and FAA Order 8000.90).
    b. Guidance on airman testing, airmen certification, designated examiners, and the FAA Flight Standards Service covered in FAA Order 8900.1, to evaluate the concept of air traffic certified training centers.
    c. Title 14 of the Code of Federal Regulations (for example, Parts 61, 65, 141, and 142) for regulatory guidance on various aviation licenses, to include air traffic controllers, flight dispatchers, and pilots.

d. Associated training guidance materials to include course descriptions, lesson outlines, and training handbooks.

e. FAA hiring regulations (for example, as covered in the FAA Human Resources Policy Manual, Office of Personnel Management job standard for Series 2152, and Equal Employment Opportunity Commission guidance) as needed to integrate a proposed solution into the FAA hiring process.

2. The Working Group is tasked to identify possible external training provider solutions. At a minimum, students who complete the program must meet the current standard for Air Traffic Control Basic Qualification Training (solutions may contain options to train students to a higher level of competency).

3. The Working Group may consider rulemaking and/or advisory materials as the solution.

4. Provide initial qualitative and quantitative costs and benefits for each recommendation.

5. Develop an interim report containing recommendations on the findings and results of the tasks explained above.

a. The recommendation report should document both majority and dissenting positions on the findings and the rationale for each position.

b. Any disagreements should be documented, including the rationale for each position and the reasons for the disagreement.

6. The Working Group may be reinstated to assist the ARAC by responding to the FAA's questions or concerns after the interim recommendation report has been submitted.

Schedule

The output of the tasking will be to complete a FAA training process review in order to identify possible external training provider solutions and make a recommendation to the FAA.

The interim report is requested to be presented to the ARAC at its June 2016 meeting and submitted to the FAA for review and acceptance no later than July 15, 2016. Should the FAA accept the recommendation of the ARAC, the Working Group may be tasked to evaluate costs and benefits and rulemaking requirements for implementation.

Working Group Activity

The Air Traffic Controller Basic Qualification Training Working Group must comply with the procedures adopted by the ARAC and are as follows:

1. Conduct a review and analysis of the assigned tasks and any other related materials or documents.
2. Draft and submit a work plan for completion of the task, including the rationale supporting such a plan, for consideration by the ARAC.
3. Provide a status report at each ARAC meeting.
4. Draft and submit the interim recommendation report based on the review and analysis of the assigned tasks.
5. Present the initial recommendation report at the ARAC meeting.
6. If the Working Group is reinstated to answer questions the FAA had regarding the recommendation report, present the findings in response to the FAA's questions or concerns about the recommendation report at the ARAC meeting.

Participation in the Working Group

The Air Traffic Controller Basic Qualification Training Working Group will be comprised of technical experts having an interest in the assigned task. A Working Group member need not be a member representative of the ARAC. The FAA would like a wide range of members to ensure all aspects of the tasks are considered in development of the

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

If you wish to become a member of the Air Traffic Controller Basic Qualification Training Working Group, write the person listed under the caption FOR FURTHER INFORMATION CONTACT expressing that desire. Describe your interest in the task and state the expertise you would bring to the Working Group. The FAA must receive all requests by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICANTION IN THE FEDERAL REGISTER.]** The ARAC and the FAA will review the requests and advise you whether or not your request is approved.

If you are chosen for membership on the Working Group, you must actively participate in the Working Group, attend all meetings, and provide written comments when requested. You must devote the resources necessary to support the Working Group in meeting any assigned deadlines. You must keep your management and those you may represent advised of working group activities and decisions to ensure the proposed technical solutions do not conflict with the position of those you represent. Once the Working Group has begun deliberations, members will

not be added or substituted without the approval of the ARAC Chair, the FAA, including the Designated Federal Officer, and the Working Group Chair.

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

The ARAC meetings are open to the public. However, meetings of the Air Traffic Controller Basic Qualification Training Working Group are not open to the public, except to the extent individuals with an interest and expertise are selected to participate. The FAA will make no public announcement of Working Group meetings.

Issued in Washington, DC, on

Lirio Liu
Designated Federal Officer
Aviation Rulemaking Advisory Committee

Transport Airplane and Engine (TAE)
Report to ARAC

September 17, 2015

TAE Agenda

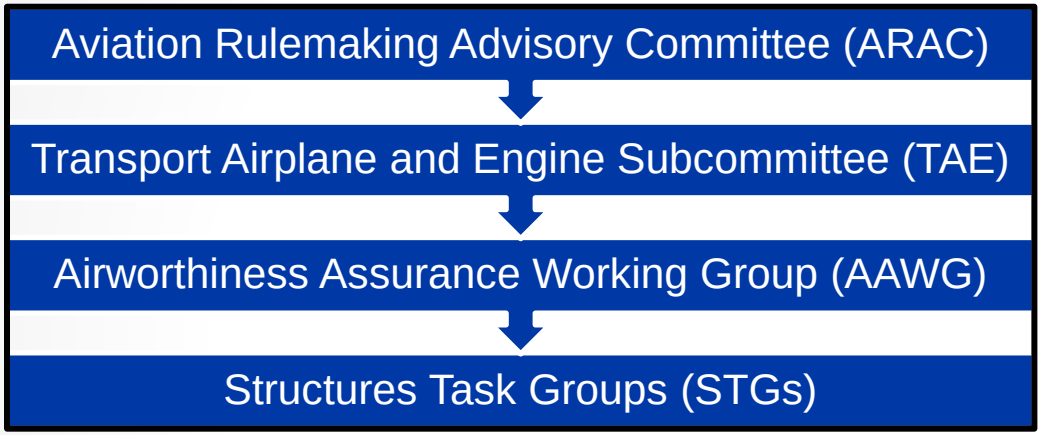
- Airworthiness Assurance Working Group
- Engine Harmonization Working Group - Engine Endurance Testing Requirements – Revision of Section 33.87
- Flight Test Harmonization Working Group - Phase 2 Tasking
- Materials Flammability Working Group
- Transport Airplane Metallic and Composite Structures Working Group - Transport Airplane Damage-Tolerance and Fatigue Evaluation
- Transport Airplane Crashworthiness and Ditching Evaluation Working Group

Airworthiness Assurance Working Group Report to ARAC

Steve Chisholm / Mark Yerger
AAWG Co-Chairs
September 17, 2015

Airworthiness Assurance Working Group

AAWG Update



Last AAWG meeting March, 2015 (Melbourne, FL)

- 33 Attendees
- 4 regulatory authorities
- 5 manufacturers
- 12 operators

Virtual meetings/coordination 4Q 2015

Next Face-to-Face Meeting: early 2016

Airworthiness Assurance Working Group

Metallic and Composite ARAC WG request to AAWG

- MCWG expertise mainly with composites
- Request AAWG to evaluate and recommend on two material independent tasks:

1. Appropriateness of adding **large damage capability** (LDC) back in the regulation

2. Establishing an industry approach for assessing the **damage tolerance of rotorburst**

Schedule:

- Draft proposal by end of year
- Proposal by March 2016

Airworthiness Assurance Working Group

AAWG LDC Sub-Team

- Provide MCWG advice and recommendations related to the 2003 General Structures Harmonization Working Group (GSHWG) recommendation to incorporating some level of fail safe back into § 25.571
  - *Specifically address whether it is appropriate to add a requirement for showing structural capability in the presence of damage, so that even if the structure fails partially, there will still be enough structure remaining to be safe.*

Airworthiness Assurance Working Group

AAWG Rotorburst Sub-Team

- Different interpretations exist with FAA rotorburst policy statement PS-ANM100-1993-00041, *Compliance with § 25.571(e) Discrete Source Damage (Uncontained Engine Failure)*
  - *AAWG to propose clarification / revision to ensure consistent interpretation and compliance*

Engine Harmonization Working Group - Engine Endurance Testing Requirements – Revision of Section 33.87 Report to ARAC

Peter Thompson EHWG Chair

September 17, 2015

Engine Endurance Testing Requirements

Team Membership

- Airbus
- Boeing
- EASA
- FAA
- GE Aviation
- HEICO
- Honeywell
- Pratt & Whitney
- Pratt & Whitney Canada
- Rolls-Royce Derby
- Rolls-Royce Indianapolis
- SNECMA
- Transport Canada
- Williams International

Engine Endurance Testing Requirements

Meeting Rhythm

- Bi-weekly telecons
- Quarterly face-to-face meetings
  - ✓ Burlington, MA – April 2014
  - ✓ East Hartford, CT – July 2014
  - ✓ Cologne, Germany – Sept 2014
  - ✓ Phoenix, AZ – January 2015
  - ✓ Derby, UK - March/April 2015
  - ✓ Cincinnati, OH – June 2015
  - Burlington, MA – Sept 2015
  - Detroit MI – Nov 2015
  - Phoenix, AZ – January 2016
  - Remaining 2016 Schedule TBD

Engine Endurance Testing Requirements

Working Group Schedule

- TAE June 2015 granted an extension of 18 months (to mid 2017) to WG to complete its efforts
- Schedule:
  - Gather necessary supporting data from OEMs to support the Alternate Test – 1Q16
  - Draft report for internal OEM & FAA review – 2Q16
  - Incorporate feedback – 3Q16
  - Submit report to TAE – 4Q16
  - Incorporate feedback – 1Q17
  - Submit report to ARAC - 2Q17

Engine Endurance Testing Requirements

Working Group Summary

- Consensus reached that current 14 CFR 33.87 rule is outdated relative to modern high bypass ratio, high pressure ratio engines
- New test is required which will meet the intent of an accelerated endurance run on a type design engine configuration
- Details of proposed test planned to be available end September 2015

Engine Endurance Testing Requirements

Key Points

- For variable geometry compressors - non-type design variable system needed to run current endurance test
  - Results in non-representative metal temperatures
- Need rule strategy that will satisfy **original rule intent**
  - Accelerated endurance run, but
  - Enables the engine to run in type design configuration, and
  - Appropriate for today's high pressure ratio engines, associated airplane designs and operation
  - Exposes, more effectively, the type of failure modes which may occur during the early entry into service period
- Current engine service life exceeds duration of current test and true "wear out" modes not necessarily demonstrated

Engine Endurance Testing Requirements

Working Activities

- Evaluated numerous minor modifications to current test standard - All required significant modifications to the test engine to maintain concurrent red lines
- Consensus reached to evaluate more significant changes
  - Using modified service type cycle with some (TBD) running at limiting (red line) conditions
  - Maintain **original intent** of rule and appropriate level of severity
  - Include (TBD) varying times at Take Off & Max Con thrust settings
- Evaluate if compliance to other part 33 rules provide data to support new endurance test development
- Evaluate harmonization efforts with EASA's regulations (CS-E 740) as appropriate

Flight Test Harmonization Working Group - Phase 2 Tasking
Report to ARAC

Christine Thibaudat – European FTHWG Co-chair
Robert Park – US FTHWG Co-chair
September 17, 2015

Flight Test Harmonization Working Group - Phase 2

FTHWG Meetings / Telecons

FTHWG-34 held in Savannah June 15-19

- Stability topic continued
- Out of Trim – New topic
- Side Stick Controls – New Topic

Post-FTHWG-34 Telecons

- July 7 (Flight in Icing, Envelope Limiting, Stability topics)
- July 21 (Steep Approach Landing topic)

FTHWG-35 scheduled September 15-19 at EASA HQ

- Wet Runway Stopping Performance – New topic
- Runway Excursion Hazard Analysis – New topic
- Several new SMEs attending for these topics

Flight Test Harmonization Working Group - Phase 2

FTHWG Status by Topic

Topic Schedule Dates	Issues	Status
Stability 6/2014 – 12/2015	Details of compliance Need ASHWG support (Low energy alert requirement)	Nominal agreement on regulations and important elements of guidance
Steep Approach Landing 10/2014 - 12/2015	Glideslope abuse angle	September 10 telecon to work remaining issues
Envelope Protection 6/2014 - 12/2015	Overridability Availability	Initial regulatory structure in discussion. Tightly linked to Icing topic
Flight In Icing 6/2014 – 12/2015	Approach speed margin relaxation for protected airplanes and subsequent robustness demonstrations	Initial regulatory structure and compliance guidance proposed
Out of Trim 6/2015 – 12/2015	Means of compliance details and system details	Initial positions discussed; No clear consensus yet
Sidestick Controls 6/2015 – 6/2016	Selection of particular force levels is the theme, but other aspects may be considered	Proposals have been made; waiting on consensus data from OEM's.

Materials Flammability Working Group Report to ARAC

Jim Davis MFWG Chair
September 17, 2015

Materials Flammability Working Group

MFWG TEAM

Becky Wulliman (Boyd)	Gilberto Niitsu (Embraer alt)	Richard Hill (FAA)
Gicela Zambon Guarnieri (Embraer)	Jean-Claude Lerminiaux (Dassault)	Rick Anderson (Schneller alt)
Blaklee Bohannan (AAL alt)	Jean-Francois Petit (Airbus)	Robert Trimble (Zodiac)
Cheryl Hurst (AAL)	Jeff Gardlin (FAA)	Scott Campbell (Zodiac)
Cheryl Miner (FAA)	Jeff Smith (Gulfstream alt)	Serge Le-Neve (DGA)
Chris Schofield (Transport Canada)	Jim Davis (AccuFleet)	Shawn King (AccuFleet support)
Dan Slaton (Boeing)	Matt Marks (Sabic alt)	Sonja Reents (Airbus)
David Baker (Schneller alt)	Matthew Anglin (Boeing alt)	Steve Reich (BEA alt)
David E Lucas (Textron)	Monique le-Roux (Zodiac)	Thomas Krause (Airbus alt)
Ed Nixon (Gulfstream)	Perry Riggenbach (Schneller)	Thomas Livengood (BEA)
Enzo Canari (EASA)	Peter Busch (Airbus)	Ingo Weichert (Airbus ALT)
Ethel Dawson (AccuFleet - support)	Phuong Ta (Zodiac)	Panade Sattayatam (Zodiac ALT)
Francisco Rezende (Embraer alt)	Raki Islam (Zodiac alt	Ralph Buoniconti (Sabic)

Materials Flammability Working Group

ORIGINAL TASK

- MFWG was tasked with reviewing proposed new material flammability regulatory framework
- New framework was designed to address realistic threats in-flight, and post-crash
- Significant revision to flammability regulations was proposed
- MFWG report was published in 2012

Materials Flammability Working Group

NEW TASKING

- Review MFWG 2012 report
- Provide quantitative economic cost/benefit data for each MFWG 2012 report recommendation
- Provide in-service data regarding incidents or accidents related to materials flammability that would be mitigated in the future by implementation of each MFWG 2012 report recommendation
- Report to be issued September 18, 2015

Materials Flammability Working Group

PRIOR WORK SCHEDULE

- Tasking issued January 20, 2015
- Full Working Group WebEx January 22, 2015
- Full Working Group Meeting January 26-27, 2015 at UTC Phoenix campus
- Four sub-groups formed:
  - Seats
  - Interiors less Seats
  - Hidden and Inaccessible areas
  - Cargo and fuselage containment/penetration
- Full Working Group WebEx every other week
- Sub-Group conference calls every other week
- Full Working Group meeting, June 1-2, Bremen Germany at Airbus
  - Cargo and Fuselage split to two separate groups
- Continued WebEx conferences weekly
- Two additional sub-groups formed to address small parts, accessible and inaccessible

Materials Flammability Working Group

REMAINING MILESTONES

- Full Working Group Meeting September 1-2, in Denver Hosted by Johns-Manville
  - Initial draft report development
- Continued WebEx meetings to finalize draft report
- Circulation of draft report to members
- Report to be issued September 18, 2015

Materials Flammability Working Group

TASKING STATUS

- Review MFWG 2012 report
  - Complete
- Provide quantitative economic cost/benefit data for each MFWG 2012 report recommendation
  - Changes enumerated, cost/benefit matrix developed, cost benefit data developed where possible
  - Qualitative NOT quantitative response for some areas where future test/regulation is not defined
- Provide in-service data regarding incidents or accidents related to materials flammability that would be mitigated in the future by implementation of each MFWG 2012 report recommendation
  - Complete – no data available that is not already reported and in FAA records
- Report to be issued September 18, 2015
  - Report in draft, to be issued September 18, 2015

Transport Airplane Metallic and Composite Structures WG
Report to ARAC

Mike Gruber MCWG Chair
September 17, 2015

Transport Airplane Metallic and Composite Structures WG

TASKING

- Recommend whether revisions are needed given the increased use of composites
  - Remaining 2003 GSHWG rulemaking recommendations (inspection threshold by “rogue flaw” and Large Damage Capability)
  - Rotor burst policy
  - Composite topics - thermal effects, test duration, LEF, truncation/clipping, retardation, bonding & repairs

Transport Airplane Metallic and Composite Structures WG

MEETINGS

- Kick-off meeting held June 16 – 17
- Monthly telecons
- Bi-weekly core team telecons
- Face-to-face meeting planned for mid September in Montreal (Bombardier)

Transport Airplane Metallic and Composite Structures WG

DRAFT WORKING PLAN

- Submitted to TAE for approval (July 20)
- AAWG sub-team working rotorburst and large damage capability
- Assessing whether partitioning composites and metals as done in Part 23, 27 & 29 will be finalized in Montreal

- Tasks are progressing to plan

Transport Airplane Crashworthiness and Ditching Evaluation WG
Report to ARAC

September 17, 2015

Transport Airplane Crashworthiness and Ditching Evaluation WG

TASKING

- Advise on what airframe-level crashworthiness and ditching standards to incorporate into 14 CFR part 25 and any associated advisory material
- Evaluate §§ 25.561, 25.562, 25.563, 25.785, 25.787, 25.789, 25.801, 25.807, 25.1411, 25.1415, and associated regulatory guidance material to determine what aspects need to be revised to maintain the current level of safety

SCHEDULE

- Tasking to be completed 24-months after issuance of tasking (June 2015 - June 2017)
- Participants and co-chairs currently being selected

Questions?

[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee - New Task

AGENCY: Federal Aviation Administration (FAA), DOT.

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

SUMMARY: The FAA assigned the Aviation Rulemaking Advisory Committee (ARAC) a new task to provide recommendations regarding occupant protection rulemaking in normal and transport category rotorcraft for older certification basis type designs that are still in production. The FAA amended regulations to incorporate occupant protection rules, including those for emergency landing conditions and fuel system crash resistance, for new type designs in the 1980s and 1990s. These rule changes do not apply to newly manufactured rotorcraft with older type designs or to derivative type designs that keep the certification basis of the original type design. This approach has resulted in a very low incorporation rate of occupant protection features into the rotorcraft fleet, and fatal accidents remain unacceptably high. At the end of 2014, only 16% of U.S. fleet had complied with the crash resistant fuel system requirements effective 20 years earlier, and only 10% had complied with the emergency landing requirements effective 25 years earlier. A recent fatal accident study has shown these measures would have been effective in saving lives.

This notice informs the public of the new ARAC activity and solicits membership for the new Rotorcraft Occupant Protection Working Group.

FOR FURTHER INFORMATION CONTACT: Martin R. Crane, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, Texas 76177, Martin.R.Crane@faa.gov,

phone number 817-222-5110, facsimile number 817-222-5961.

SUPPLEMENTARY INFORMATION:

ARAC Acceptance of Task

As a result of the [date of the ARAC meeting] ARAC meeting, the FAA assigned and ARAC accepted this task establishing the Rotorcraft Occupant Protection Working Group. The Rotorcraft Occupant Protection Working Group will serve as staff to the ARAC and provide advice and recommendations on the assigned task. The ARAC will review and accept the recommendation report and will submit it to the FAA.

Background

The FAA established the ARAC to provide information, advice, and recommendations on aviation-related issues that could result in rulemaking to the FAA Administrator, through the Associate Administrator of Aviation Safety.

The Rotorcraft Occupant Protection Working Group will provide advice and recommendations to the ARAC on occupant protection rulemaking, including both initial certification and continued airworthiness. The basic concept of occupant protection is to give all occupants the greatest possible chance to egress an aircraft without serious injury after a survivable emergency landing or accident. While the number of U.S. helicopter accidents and the corresponding accident rate over the past 10 years have steadily decreased, during that same time period data associated with fatal helicopter accidents and fatalities remains virtually unchanged. A number of regulations were promulgated in the 1980s and 1990s to address and greatly improve occupant protection in a survivable emergency landing or accident. These occupant protection improvements involve seat systems that reduce the likelihood of fatal injuries to the occupant in a crash (14 CFR 27.562, 27.785, 29.562, and 29.785); structural

requirements that maintain a survivable volume and restrain large items of mass above and behind the occupant (14 CFR 27.561 and 29.561); and fuel systems that reduce the likelihood of an immediate post-crash fire (14 CFR 27.952 and 29.952). If the occupant protection improvement rules are not incorporated in new production helicopters, there will be no meaningful reduction in the number of fatalities in helicopter accidents.

Following a series of accidents involving post-crash fires, the Australian Civil Aviation Safety Authority asked the FAA for assistance in determining the airworthiness of certain helicopters. This request resulted in a collaborative post-crash fire/blunt force trauma study performed by the FAA's Rotorcraft Directorate and Civil Aerospace Medical Institute (CAMI). The data consisted of 97 fatal accidents involving U.S. registered, type-certificated helicopters in a five-year timeframe from 2008 to 2013. Part 27 rotorcraft comprised the largest mass of data (87 of 97 fatal accidents, 90% of the total) in the study. The post-crash fire portion of the study found that post-crash fires occurred in 30 of 76 (39%) of fatal accidents involving part 27 helicopters without fuel systems that meet the full crash resistance requirements of 14 CFR 27.952. The post-crash fire contributed to a fatality in 20% of these fatal accidents. While the data set for part 29 rotorcraft was much smaller (10 of 97 fatal accidents, 10% of the total), the results were comparable. Through the course of the study, the Rotorcraft Directorate further discovered that there were only about 16% of U.S. registered, type-certificated rotorcraft that fully complied with the fuel system crash resistance provisions in §§ 27.952 and 29.952, despite those rules having been in effect for 20 years at the time of the study.

In the time since increased rotorcraft occupant protection standards became effective as federal regulations, research efforts have studied injury patterns in fatal rotorcraft accidents. In April 2003, *Aviation, Space, and Environmental Medicine* published Narinder Taneja and

Douglas A. Wiegmann's "Analysis of Injuries Among Pilots Killed in Fatal Helicopter Accidents." Using autopsy data from 1993 to 1999, Taneja and Wiegmann analyzed the pattern of specific bony injuries (ribs, skull, and pelvis) and organ/visceral injuries (brain, lung, and heart) documented in 74 fatal rotorcraft accidents. They found blunt trauma as the cause of death in 88% of the cases, with the highest percentages of injuries to the head and core body regions. Among the implications cited in their study was, "Protection of the occupants exposed to a crash is a realistic objective that can be achieved if crashworthiness becomes a primary element of initial helicopter design and future upgrade programs."

The second component of the Rotorcraft Directorate/CAMI study involved blunt force trauma. Blunt force trauma accounted for cause of death in 92% of the 2008-2013 fatal accident data. In addition, blunt force trauma also was the cause of death in 80% of the part 27 fatal rotorcraft accidents where a post-crash fire occurred. The Rotorcraft Directorate and CAMI built their study using the framework and methodology previously established by Taneja and Wiegmann's 2003 study. Further, they used the percentages of bony injuries and organ/visceral injuries documented in Taneja and Wiegmann's study as a baseline for comparison. The intent was to see if a statistically significant change occurred in blunt force trauma injury patterns in fatal rotorcraft accidents in the 10 years since the previous study. They concluded there was no statistically significant difference across most categories of bony injuries and across all categories of organ/visceral injuries. The Rotorcraft Directorate further discovered that only 10% of U.S. registered, type-certificated rotorcraft complied with increased occupant protection measures related to blunt force trauma mandated in the §§ 27.562 and 29.562 rules, despite the rules being in effect for 25 years at the time of the study. The provisions of §§ 27.562 and 29.562 were specifically designed for increased protection of the head and core body regions, the

same regions documented with the highest levels of injury in the fatal accident studies conducted by Taneja and Wiegmann and the Rotorcraft Directorate/CAMI.

Additional research found that about 9,000 occupants had been involved in U.S. helicopter accidents in the 25 years since §§ 27.562 and 29.562 became effective. Only 2% of helicopters in those accidents were compliant with §§ 27.562 and 29.562. Over 1,300 occupants were killed in accidents involving the 98% of helicopters that were not compliant with §§ 27.562 and 29.562.

The Task

The Rotorcraft Occupant Protection Working Group is tasked to:

1. Specifically advise and make written recommendations on how occupant protection standards should be made effective for newly manufactured rotorcraft. Occupant protection standards include 14 CFR §§ 27.561, 27.562, 27.785, 27.952, 29.561, 29.562, 29.785, and 29.952.
2. Based on the Rotorcraft Occupant Protection Working Group recommendations, perform the following:

   a. Estimate what the regulated parties would do differently as a result of the proposed regulation and how much it would cost.

   b. Estimate the improvement in survivability of future accidents from the proposed recommendations.

   c. Estimate any other benefits (e.g., reduced administrative burden) or costs that would result from implementation of the recommendations.
3. Develop a report containing recommendations on the findings and results of the tasks explained above.

a. The recommendation report should document both majority and dissenting positions on the findings and the rationale for each position.

b. Any disagreements should be documented, including the rationale for each position and the reasons for the disagreement.

4. Complete the following after the FAA accepts the initial recommendation report:

    a. Specifically advise and make written recommendations on incorporating rotorcraft occupant protection improvements and standards into the existing rotorcraft fleet. Occupant protection standards include 14 CFR §§ 27.561, 27.562, 27.785, 27.952, 29.561, 29.562, 29.785, and 29.952.

    b. Develop an addendum report containing recommendations on the findings and results of the tasks explained above.

    c. Document both majority and dissenting positions on the findings and the rationale for each position.

    d. Any disagreements should be documented, including the rationale for each position and the reasons for the disagreement.

5. The working group may be reinstated to assist the ARAC in responding to the FAA's questions or concerns after the recommendation report has been submitted.

Schedule

This tasking notice requires two recommendation reports.

- The initial recommendation report must be submitted to the FAA for review and acceptance no later than 18 months after publication of this notice in the *Federal Register*.

- The addendum recommendation report must be submitted to the FAA for review and acceptance no later than 6 months after the initial recommendation report is submitted.

Working Group Activity

The Rotorcraft Occupant Protection Working Group must comply with the procedures adopted by the ARAC as follows:

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

Participation in the Working Group

The Rotorcraft Occupant Protection Working Group will be comprised of technical experts having an interest in the assigned task. A working group member need not be a member representative of the ARAC. The FAA would like a wide range of members (normal category rotorcraft manufacturers, transport category rotorcraft manufacturers, and rotorcraft operators from various segments of the industry such as oil and gas exploration, emergency medical services, and air tour operators) to ensure all aspects of the tasks are considered in development of the recommendations. The provisions of the August 13, 2014, Office of Management and Budget guidance, "Revised Guidance on Appointment of Lobbyists to Federal Advisory

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

If you wish to become a member of the Rotorcraft Occupant Protection Working Group, write the person listed under the caption FOR FURTHER INFORMATION CONTACT expressing that desire. Describe your interest in the task and state the expertise you would bring to the working group. The FAA must receive all requests by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICANTION IN THE FEDERAL REGISTER.] The ARAC and the FAA will review the requests and advise you whether or not your request is approved.

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

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

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

Issued in Washington, DC, on

Lirio Liu
Designated Federal Officer
Aviation Rulemaking Advisory Committee

Federal Aviation Administration

Rotorcraft Occupant Protection Background & Supporting Analysis

Presented By: FAA Rotorcraft Directorate

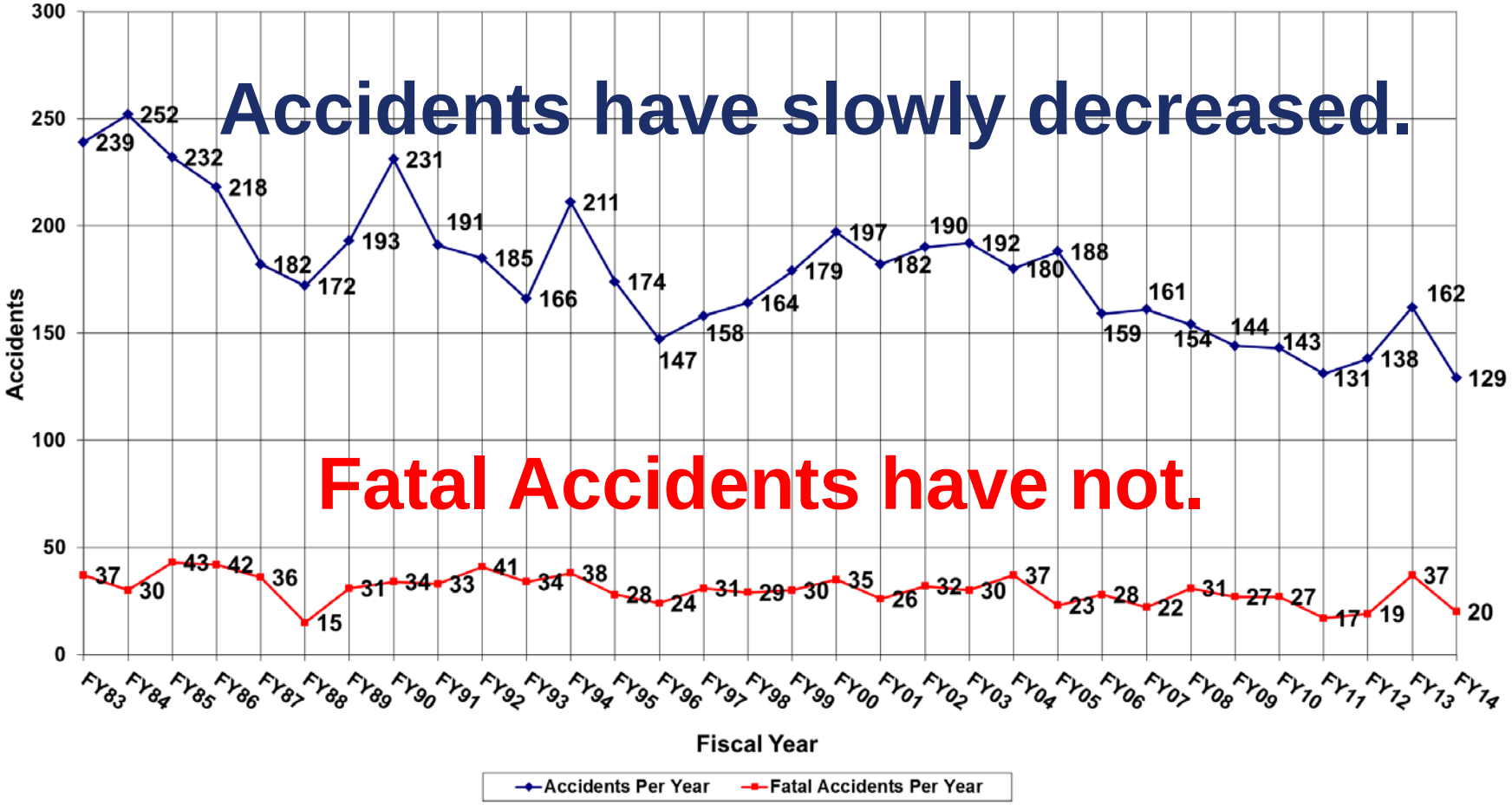
Date: September 17, 2015

Background

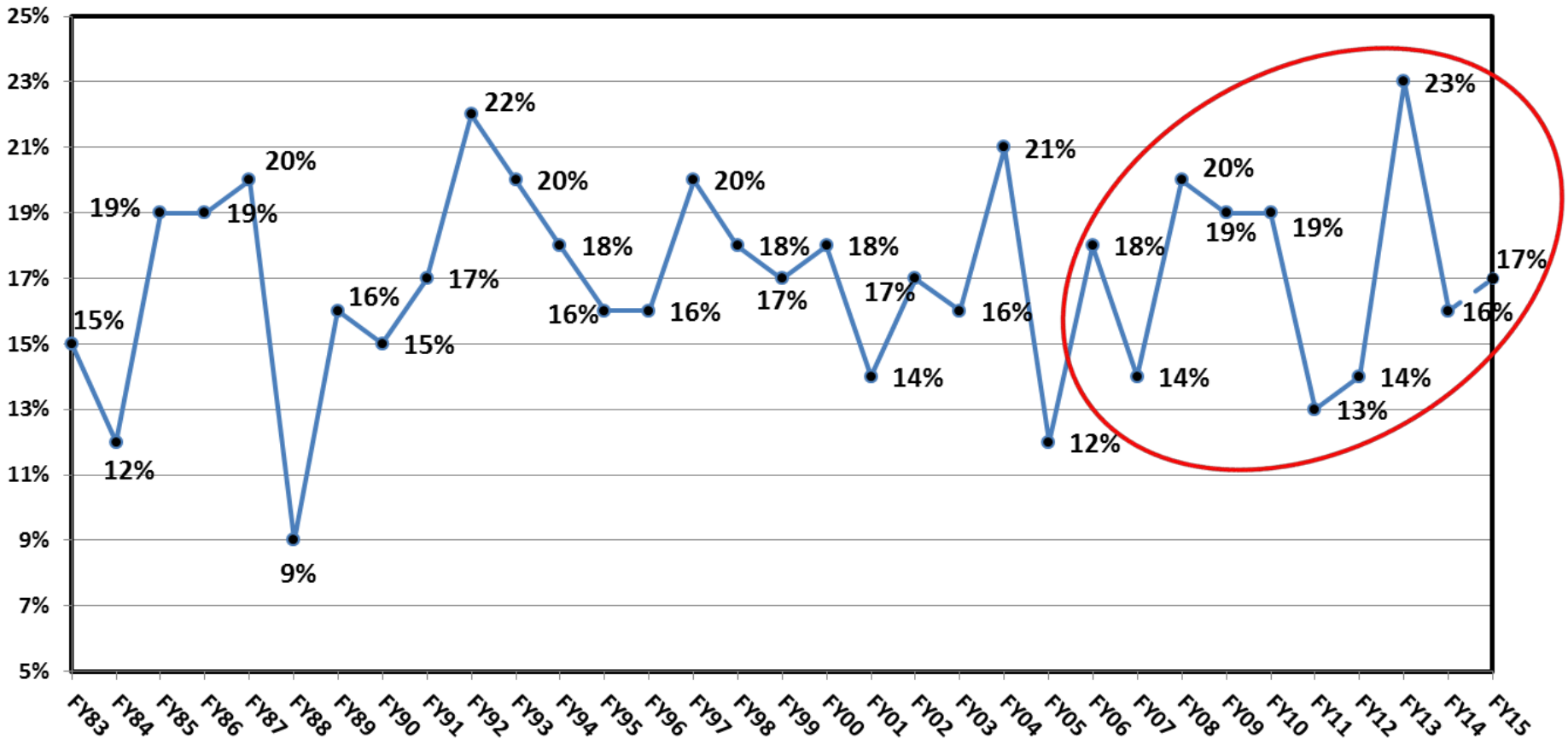
- **Issue**
  - U.S. helicopter accidents over the past few decades have steadily decreased, while fatal helicopter accidents and fatalities remains virtually unchanged

- **Contributing Factor**
  - Slow incorporation of occupant protection requirements into the overall U.S. rotorcraft fleet
  - Rules in effect for 20+ years, but percentages of rotorcraft that meet requirements is low
    - Crash resistant fuel systems: 16% of U.S. fleet
    - Increased blunt force trauma protection: 10% of U.S. fleet

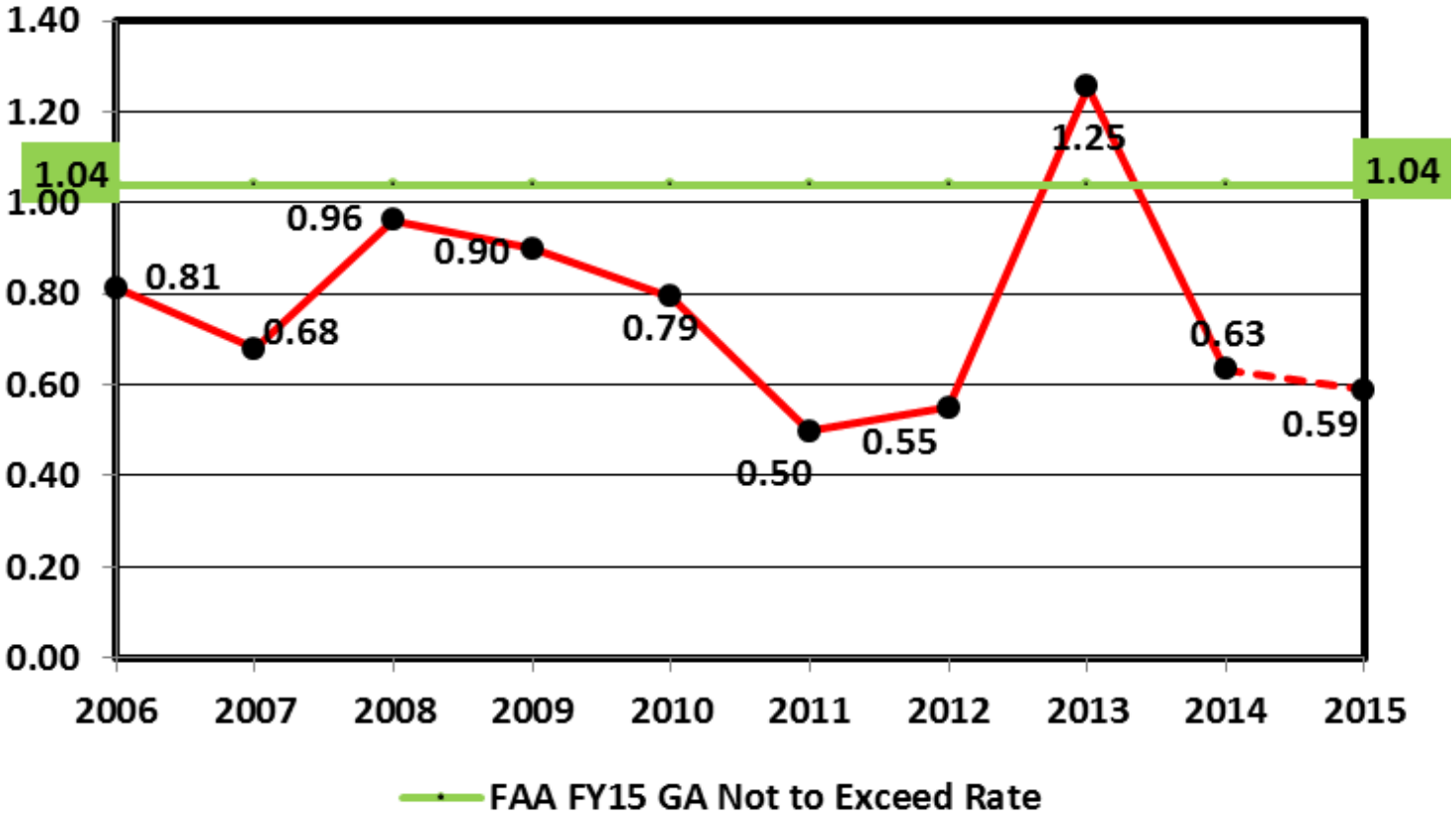
U.S. Registered Rotorcraft Accidents FY83 - FY14



Percentage of Rotorcraft Accidents with a Fatality



Estimated U.S. Rotorcraft Fatal Accident Rates Per 100,000 hours – 10 Year Look Back



Historic rotorcraft flight hours extracted from FAA's General Aviation and Part 135 Activity Survey. Years 11 & 14 based on FAA's FY2015-2035 Forecast.

2013-14 FAA Fatal Accident Study

- **Rotorcraft Directorate and Civil Aerospace Medical Institute (CAMI) Collaboration**
- **Reviewed "cause of death" data covering:**
  - 5 years of autopsy reports
  - 97 fatal helicopter accidents (Part 27 a/c: 87 of 97)
- **Analysis included:**
  - Contribution of post-crash fire to fatalities for cases of rotorcraft with & without crash resistant fuel tanks
  - Statistical comparison of the frequency of blunt force injury patterns compared to previous research

2013-14 FAA Fatal Accident Study

- **Post crash fire**
  - For Part 27 rotorcraft fatal accidents where a fully crash resistant fuel system was *not* installed:
    - Present in 39% of fatal accidents
    - Contributed to a fatality in 20% of the cases when present
    - No significant differences between different makes/models
- **Blunt force trauma**
  - Studied frequency of skeletal & organ injury patterns
    - No statistically significant change over last 10 years
    - Core body region and head most frequently cited
    - Existing rule, if incorporated, would have offered increased protection to same body areas cited in fatal accidents

Long Term Historical Perspective

- **For 25 years (1989-2014) since the increased blunt force trauma rule became effective:**
  - ≈ 4,200 rotorcraft accidents with ≈ 9,000 total occupants
  - Only **2%** of a/c in those accidents met rule's requirements
  - The other **98%** of a/c in those carried ≈ 8,800 occupants
  - Over **1,300** fatal injuries to the ≈ 8,800 occupants

FAA and NTSB Safety Recommendations

- **July 22, 2015, FAA Safety Recommendation for initiating retroactive rule requiring crash resistant fuel systems for all rotorcraft manufactured after January 1, 2020**
- **July 23, 2015, NTSB Safety Recommendation to require, for all newly manufactured rotorcraft regardless of the design's original certification date, that crash resistant fuel systems be installed**

Regulations Identified

- **Many rotorcraft in production today are older type designs not incorporating safety enhancements.**
- **The regulations affected include**
  - dynamic seat systems,
  - maintaining a survivable volume for occupants,
  - restraining large items of mass above and behind the occupant,
  - crash resistant fuel systems.

Rotorcraft Occupant Protection Tasks

- **Recommend how occupant protection standards should be made effective for newly manufactured rotorcraft**
- **Present cost/benefit analysis**
- **Follow-on task**
  - Recommend how to incorporate rotorcraft occupant protection improvements and standards into the existing rotorcraft fleet

THE FAA FUTURE ARAC PROJECTS LIST

#	OPR	TYPE OF RULEMKAING PROJECT	PROJECT TITE	DESCRIPTION	PART OR SECTION #	CONTACT NAME	FUTURE ARAC OR ARC INVOVLEMENT (Committee & FY)
Aircraft Certification (AIR) (6)							
Rotorcraft (ASW)							
1	ASW	NPRM	Rotorcraft Occupant Survivability Safety Enhancements	Parts 27 and 29 rule changes intended to address safety enhancements, including areas intended to improve occupant survivability (e.g. bird strike rules, crashworthiness seats, crashworthiness fuel tanks, etc.)	Parts 27/29	Sandra Shelley Sandra.Shelley @faa.gov	ARAC
2	ASW	NPRM	Rotorcraft Bird Strike Part 27 & 29	The Rotorcraft Directorate has evaluated bird strike data collected over the last 20+ years and has identified a need to pursue the formation of an Aviation Rulemaking Advisory Committee (ARAC) to provide recommendations regarding the lack of Part 27 bird strike requirements and the increasing safety risk. Also, only 17% of the Part 29 transport category rotorcraft identified in the FAA Aircraft Registry are equipped with bird strike protection, even though a bird strike requirement has been effective for this category for almost 20 years. Means must also be found to address the lack of bird strike protection and the increasing safety risk to the Part 29 in-service fleet.	Parts 27/29	Gary Roach Gary.B.Roach @faa.gov	ARAC
Engine (ANE)							
3	ANE	NPRM	Initial Maintenance Inspection Test (IMI)	Revise the rule to modify the intent from an IMI demo to a fleet leader reliability demo. The engine test conducted will be similar to todays test, but generally more cycles would be required and perhaps a wider range of expected operating conditions. This is not an SSP project; more involved.	33.9	Alan Strom Alan.Strom@faa.gov	ARAC

#	OPR	TYPE OF RULEMKAING PROJECT	PROJECT TITE	DESCRIPTION	PART OR SECTION #	CONTACT NAME	FUTURE ARAC OR ARC INVOVLEMENT (Committee & FY)
4	ANE	NPRM	Airplane Engines Power or Thrust Ratings for OEI	Revise rule to roll in existing policy and special conditions. In addition clean-up inconsistent language in rule. Existing policy extends the takeoff time from 5 minutes to 10 minutes in case of an OEI event for airplanes. We issued many special conditions for 30 minutes all engine operational for rotorcraft engines, which does not currently exist in part 33. This rule will include both the content of the policy and special conditions. Additionally, revise part 1.1 rated takeoff to extend it from 5 minutes to 10 minutes.	33.7	Dorina Mihail Dorina.Mihail @faa.gov	ARAC
5	ANE	NPRM	Create Definitions in part 33	Some part 1.1 definitions that are used for part 33 engine certifications have been revised in the past. When changes to these definitions affect compliance, their history should be retained as part of the engine certification basis. Adding a "definitions" section to part 33 will allow retaining the definitions associated with the engine certification basis. This will address the fact that part 1.1 amendments are not included in the certification basis.	part 33	Dorina Mihail Dorina.Mihail @faa.gov	ARAC
6	ANE	NPRM	Loss of Load	Depending on the outcome of the AIA discussions, we may do rulemaking. **Background**: Two different applicants for an engine type certificate have proposed to exclude the shaft system from failure consideration in determining the terminal rotor speed in the event of a complete loss of load. The proposals were to exclude either the entire shaft or significant parts of the shaft in the turbine section of the engine. Exclusion of the entire shaft is not allowed under the current §33.27 (f) (6). Exclusion of significant parts of the shaft in the turbine section of the engine is not consistent with past practice or the original intent of the regulation.	33.27	Tim Mouzakis timoleon.mouzakis@faa.gov	ARAC