Federal Aviation Administration
Aviation Rulemaking Advisory Committee

Transport Airplane and Engine Issue Area
General Structures Harmonization Working Group

Task 11 – Harmonize 14 CFR Part 25.683

Task Assignment

exemption is necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policies and provisions of the Act. OLDE Management states that the requested relief satisfies this standard.

4. OLDE Management asserts that the Transaction arose out of business considerations unrelated to the Trust and OLDE Management. OLDE Management states that there is insufficient time to obtain shareholder approval of the New Agreements prior to the Closing Date.

5. OLDE Management represents that under the New Agreements, during the Interim Period, the scope and quality of services provided to the Funds will be at least equivalent to the scope and quality of the services it previously provided under the Existing Agreements. OLDE Management states that if any material change in its personnel occurs during the Interim Period, OLDE Management will apprise and consult with the Board to ensure that the Board, including a majority of the Independent Trustees, are satisfied that the scope and quality of the advisory services provided to the Funds will not be diminished. OLDE Management also states that the compensation payable to it under the New Agreements will be no greater than the compensation that would have been paid to OLDE Management under the Existing Agreements.

Applicant's Conditions

OLDE Management agrees as conditions to the issuance of the exemptive order requested by the application that:

1. The New Agreements will have the same terms and conditions as the Existing Agreements except for the dates of execution and termination.

2. Fees earned by OLDE Management in respect of the New Agreements during the Interim Period will be maintained in an interest-bearing escrow account, and amounts in the account (including interest earned on such fees) will be paid to (i) OLDE Management in accordance with the New Agreements, after the requisite shareholder approvals are obtained, or (ii) the respective Fund, in absence of such shareholder approval.

3. The Trust will convene a meeting of shareholders of each Fund to vote on approval of the respective New Agreements during the Interim Period (but in no event later than April 15, 2000).

4. OLDE Management or an affiliate, not the Funds, will bear the costs of preparing and filing the application and the costs relating to the solicitation of shareholder approval of the Funds necessitated by the Transaction.

5. OLDE Management will take all appropriate steps so that the scope and quality of advisory and other services provided to the Funds during the Interim Period will be at least equivalent, in the judgment of the Trust's Board, including a majority of the Independent Trustees, to the scope and quality of services previously provided under the Existing Agreements. If personnel providing material services during the Interim Period change materially, OLDE Management will apprise and consult with the Board to assure that the trustees, including a majority of the Independent Trustees, of the Trust are satisfied that the services provided will not be diminished in scope or quality.

For the SEC, by the Division of Investment Management, under delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 99–30709 Filed 11–24–99; 8:45 am]

BILLING CODE 8010–01–M

SECURITIES AND EXCHANGE COMMISSION

SUNSHINE ACT MEETING

AGENCY MEETING: Notice is hereby given, pursuant to the provisions of the Government in the Sunshine Act, Pub. L. 94–409, that the Securities and Exchange Commission will hold the following meeting during the week of November 29, 1999.

A closed meeting will be held on Wednesday, December 1, 1999, at 11:00 a.m.

Commissioners, Counsel to the Commissioners, the Secretary to the Commission, and recording secretaries will attend the closed meeting. Certain staff members who have an interest in the matters may also be present.

The General Counsel of the Commission, or his designee, has certified that, in his opinion, one or more of the exemptions set forth in 5 U.S.C. 552b(c) (4), (8), (9)(A) and (10) and 17 CFR 200.402(a) (4), (8), (9)(A) and (10), permit consideration for the scheduled matters at the closed meeting.

Commissioner Unger, as duty officer, voted to consider the items listed for the closed meeting in a closed session.

The subject matter of the closed meeting scheduled for Wednesday, December 1, 1999, will be:

Institution and settlement of injunctive actions

Institution and settlement of administrative proceedings of an enforcement nature

At times, changes in Commission priorities require alterations in the scheduling of meeting items. For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact:

The Office of the Secretary at (202) 942–7070.

Dated: November 23, 1999.

Jonathan G. Katz,

Secretary.

[FR Doc. 99–30918 Filed 11–23–99; 2:54 pm]

BILLING CODE 8010–01–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; Transport Airplane and Engine Issues—New and Revised Tasks

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of new and revised task assignments for the Aviation Rulemaking Advisory Committee (ARAC).

SUMMARY: Notice is given of new tasks assigned to and accepted by the Aviation Rulemaking Advisory Committee (ARAC) and of revisions to a number of existing tasks. This notice informs the public of the activities of ARAC.

FOR FURTHER INFORMATION CONTACT: Dorenda Baker, Transport Airplane Directorate, Aircraft Certification Service (ANM–110), 1601 Lind Avenue, SW., Renton, WA 98055; phone (425) 227–2109; fax (425) 227–1320.

SUPPLEMENTARY INFORMATION:

Background

The FAA has established an Aviation Rulemaking Advisory Committee to provide advice and recommendations to the FAA Administrator, through the Associate Administrator for Regulation and Certification, on the full range of the FAA's rulemaking activities with respect to aviation-related issues. This includes obtaining advice and recommendations on the FAA's commitment to harmonize its Federal Aviation Regulations (FAR) and practices with its trading partners in Europe and Canada.

One area ARAC deals with is transport airplane and engine issues. These issues involve the airworthiness standards for transport category

airplanes and engines in 14 CFR parts 25, 33, and 35 and parallel provisions in 14 CFR parts 121 and 135. The corresponding Canadian standards are contained in Parts V, VI, and VII of the Canadian Aviation Regulations. The corresponding European standards are contained in Joint Aviation Requirements (JAR) 25, JAR–E, JAR–P, JAR–OPS–Part 1, and JAR–26.

As proposed by the U.S. and European aviation industry, and as agreed between the Federal Aviation Administration (FAA) and the European Joint Aviation Authorities (JAA), an accelerated process to reach harmonization has been adopted. This process is based on two procedures:

(1) Accepting the more stringent of the regulations in Title 14 of the Code of Federal Regulations (FAR), Part 25, and the Joint Airworthiness Requirements (JAR); and

(2) Assigning approximately 41 already-tasked significant regulatory differences (SRD), and certain additional part 25 regulatory differences, to one of three categories:

- Category 1—Envelope
- Category 2—Completed or near complete
- Category 3—Harmonize

The Revised Tasks

ARAC will review the rules identified in the ''FAR/JAR 25 Differences List,'' dated June 30, 1999, and identify changes to the regulations necessary to harmonize part 25 and JAR 25. ARAC will submit a technical report on each rule. Each report will include the cost information that has been requested by the FAA. The tasks currently underway in ARAC to harmonize the listed rules are superseded by this tasking.

New Tasks

The FAA has submitted a number of new tasks for the Aviation Rulemaking Advisory Committee (ARAC), Transport Airplane and Engine Issues. As agreed by ARAC, these tasks will be accomplished by existing harmonization working groups. The tasks are regulatory differences identified in the above-referenced differences list as Rule type = P–SRD.

New Working Group

In addition to the above new tasks, a newly established Cabin Safety Harmonization Working Group will review several FAR/JAR paragraphs as follows:

ARAC will review the following rules and identify changes to the regulations necessary to harmonize part 25 and JAR:

(1) Section 25.787;
(2) Section 25.791(a) to (d);
(3) Section 25.810;
(4) Section 25.811;
(5) Section 25.819; and
(6) Section 25.813(c).

ARAC will submit a technical report on each rule. Each report will include the cost information that has been requested by the FAA.

The Cabin Safety Harmonization Working Group would be expected to complete its work for the first five items (identified as Category 1 or 2) before completing item 6 (identified as Category 3).

Schedule

Within 120 days of tasking/retasking:

- For Category 1 tasks, ARAC submits the Working Groups' technical reports to the FAA to initiate drafting of proposed rulemaking documents.
- For Category 2 tasks, ARAC submits technical reports, including already developed draft rules and/or advisory materials, to the FAA to complete legal review, economic analysis, coordination, and issuance.

June 2000: For Category 3 tasks, ARAC submits technical reports including draft rules and/or advisory materials to the FAA to complete legal review, economic analysis, coordination, and issuance.

ARAC Acceptance of Tasks

ARAC has accepted the new tasks and has chosen to assign all but one of them to existing harmonization working groups. A new Cabin Safety Harmonization Working Group will be formed to complete the remaining tasks. The working groups serve as staff to ARAC to assist ARAC in the analysis of the assigned tasks. Working group recommendations must be reviewed and approved by ARAC. If ARAC accepts a working group's recommendations, it forwards them to the FAA and ARAC recommendations.

Working Group Activity

All working groups are expected to comply with the procedures adopted by ARAC. As part of the procedures, the working groups are expected to accomplish the following:

1. Document their decisions and discuss areas of disagreement, including options, in a report. A report can be used both for the enveloping and for the harmonization processes.

2. If requested by the FAA, provide support for disposition of the comments received in response to the NPRM or review the FAA's prepared disposition of comments. If support is requested, the Working Group will review comments/disposition and prepare a report documenting their recommendations, agreement, or disagreement. This report will be submitted by ARAC back to the FAA.

3. Provide a status report at each meeting of ARAC held to consider Transport Airplane and Engine Issues.

Partcipation in the Working Groups

Membership on existing working groups will remain the same, with the formation of subtask groups, if appropriate. The Cabin Safety Harmonization Working Group will be composed of technical experts having an interest in the assigned task. A working group member need not be a representative of a member of the full committee.

An individual who has expertise in the subject matter and wishes to become a member of the Cabin Safety Harmonization Working Group should write to the person listed under the caption **FOR FURTHER INFORMATION CONTACT** expressing that desire, describing his or her interest in the tasks, and stating the expertise he or she would bring to the working group. All requests to participate must be received no later than December 30, 1999. The requests will be reviewed by the assistant chair, the assistant executive director, and the working group chair, and the individuals will be advised whether or not the request can be accommodated.

Individuals chosen for membership on the Cabin Safety Harmonization Working Group will be expected to represent their aviation community segment and participate actively in the working group (e.g., attend all meetings, provide written comments when requested to do so, etc.). They also will be expected to devote the resources necessary to ensure the ability of the working group to meet any assigned deadline(s). Members are expected to keep their management chain advised of working group activities and decisions to ensure that the agreed technical solutions do not conflict with their sponsoring organization's position when the subject being negotiated is presented to ARAC for a vote.

Once the working group has begun deliberations, members will not be added or substituted without the approval of the assistant chair, the assistant executive director, and the working group chair.

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

Meetings of ARAC will be open to the public. Meetings of the working groups will not be open to the public, except to the extent that individuals with an interest and expertise are selected to participate. No public announcement of working group meetings will be made.

Issued in Washington, DC, on November 19, 1999.

Anthony F. Fazio,

Executive Director, Aviation Rulemaking Advisory Committee.

[FR Doc. 99–30774 Filed 11–24–99; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

RIN 2120–AA64

General Aviation Summit; Notice of Public Meeting

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of public meeting.

SUMMARY: This notice announces a public meeting on the subject of the continued airworthiness of the U.S. general aviation fleet of aircraft. The purpose of the meeting is to gather information and discuss technical issues related to problems associated with the increasing average age of the general aviation fleet. Particular emphasis will be given to continued field support, service difficulty experiences and reporting, and inspection issues.

DATES: The public meeting will be held January 11–12, 2000, starting at 8:00 a.m. each day, in Kansas City, Missouri. Registration will begin at 8:00 a.m. on the first day of the meeting.

ADDRESSES: The public meeting will be held at the following location: The Adam's Mark Hotel, Grand Ballroom, 9103 East 39th Street, Kansas City, Missouri 64133.

Persons who are unable to attend the meeting may mail their comments to: Federal Aviation Administration, (FAA), Central Region, Small Airplane Directorate, Attention: Mr. Bill Timberlake, 901 Locust, Room 301, Kansas City, Missouri 64106. Written comments regarding the subject of this meeting will receive the same consideration as statements made at the public meeting.

FOR FURTHER INFORMATION CONTACT: Requests to present a statement at the public meeting and questions regarding the logistics of the meeting should be directed to FAA, Central Region, Small Airplane Directorate, Attention: Mr. Bill Timberlake, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329–4178; facsimile (816) 329–4091.

SUPPLEMENTARY INFORMATION:

Participation at the Public Meeting

Requests from persons who wish to present oral statements at the public meeting should be received by the FAA no later than 10 days prior to the meeting. Such requests should be submitted to Mr. Bill Timberlake as listed in the section titled **FOR FURTHER INFORMATION CONTACT** above, and should include a written summary of oral remarks to be presented, and an estimate of time needed for the presentation. Requests received after the date specified above will be scheduled if there is time available during the meeting; however, the names of those individuals may not appear on the written agenda. The FAA will prepare an agenda of speakers that will be available at the meeting. To accommodate as many speakers as possible, the amount of time allocated to each speaker may be less than the amount of time requested. Those persons desiring to have available audiovisual equipment should notify the FAA when requesting to be placed on the agenda.

Background

The average airplane in the general aviation fleet of the United States is approximately 34 years old. In the next 10 years, this average age is expected to rise to over 41 years old. By the year 2019, the average general aviation airplane will be almost 50 years old.

Certain type design airplanes may be subject to pending rulemaking, which would require the development of Structural Inspection Documents (SIDs), and a mandated structural inspection program. These actions, if adopted, would not commence for at least 5 years and may not be complete until the year 2010. This rulemaking would not affect airplanes utilized in accordance with Part 91 of the Federal Aviation Regulations (14 CFR part 91). The FAA has determined that as the general aviation fleet gets older, there is concern about ensuring the continued airworthiness of these airplanes.

In addition to these concerns, there are a large number of general aviation airplane manufacturers that have gone out of business or severely curtailed operations. The FAA is concerned about the less than optimum availability of resources to respond to any airworthiness problems on these airplanes. The FAA is aware that many of these ''orphaned'' airplanes are well supported by owner associations and spare parts manufacturers, but unfortunately, this support is not available in all cases.

The FAA has determined that it is in the public interest to hold a public meeting on this subject for the purpose of sharing information and gathering additional data. Accordingly, the FAA will conduct this public meeting in Kansas City, Missouri.

The FAA anticipates that the agency, industry, and the general public will use the public meeting as a forum to share information, resolve questions, and discuss potential solutions concerning the continued airworthiness of older general aviation airplanes.

Public Meeting Procedures

The following procedures have been established for this meeting:

1. Admission and participation in the public meeting is free. The meeting will be open to all persons who have requested in advance to present statements, or who register on the first day of the meeting (between 8:00 a.m. and 8:30 a.m.). Time availability for presentations and seating will be made according to the order of reservation.

2. Representatives from the FAA will conduct the public meeting. A technical panel of FAA personnel will discuss information presented by participants.

3. The public meeting is intended as a forum to share information and resolve questions concerning the continued airworthiness of older general aviation airplanes. Those sharing information will include industry, the general public, and operators of general aviation aircraft. Participants must limit their presentations to the issue.

4. All interested parties will have the opportunity to present any additional information not currently available to the FAA. The FAA will then have the opportunity to explain the methodology and technical assumptions supporting its current observations.

5. FAA personnel, industry, and public participants may engage in a full discussion of all technical material presented at the meeting. Anyone presenting conclusions will be expected to submit to the FAA data supporting those conclusions.

6. The FAA will try to accommodate all speakers. Time may be limited for each presentation.

7. Sign and oral interpretations will be made available at the meeting, including assistive listening devices, if requested 10 calendar days before the meeting.

8. The meeting (except for any breakout sessions) will be recorded by a court reporter. Any person who is interested in purchasing a copy of the

Recommendation Letter

400 Main Street
East Hartford, Connecticut 06108

Pratt & Whitney
A United Technologies Company

April 4, 2000

Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Attention: Mr. Thomas McSweeny, Associate Administrator for Regulation and Certification

Subject: ARAC Recommendation

Reference: ARAC Tasking, Federal Register, November 19, 1999

Dear Tom,

The Transport Airplane and Engine Issues Group is pleased to submit the following "Fast Track" reports as recommendations to the FAA in accordance with the reference tasking. These reports have been prepared by the ~~General~~ Structures Harmonization Working Group.

- 25.783 Doors (Note that the report addresses safety issues raised by the NTSB but the proposal is considered non controversial and appropriate for the Fast Track process.) ANM-96-398-A
- 25.683 Operational Tests ANM-00-083-A
- 25.963 Fuel Tank Access Cover ANM-98-466-A

Sincerely yours,

Craig R. Bolt

Craig R. Bolt
Assistant Chair, TAEIG

Attachments

Copy: Kris Carpenter - FAA-NWR
*Amos Hoggard - Boeing
*Effie Upshaw - FAA Washington, DC

*letter only

CRB07_040400

Recommendation

GSHWG ARAC Fast Track Report – FAR 25.683 Operations tests

1 - What is underlying safety issue addressed by the FAR/JAR?

The purpose of the FAR is to substantiate that operation of the airplane control system is not adversely affected(jamming, friction, deflection) by structural loading up to maximum load expected in the control system in normal operation.

The JAR incorporates the FAR, and adds a requirement to substantiate that the operation of the airplane control system is not adversely affected(jamming, friction, disconnection, damage) by the presence of deflections of the aeroplane structure due to the separate application of pitch, roll and yaw limit manoeuvre loads. The JAR also adds a requirement to substantiate that the vibrations in the airplane in normal operation do not adversely affect (interference or contact) the control systems.

2 - What are the current FAR and JAR standards?

Current FAR text:

FAR 25.683 Operation tests.

It must be shown by operation tests that when portions of the control system subject to pilot effort loads are loaded to 80 percent of the limit load specified for the system and the powered portions of the control system are loaded to the maximum load expected in normal operation, the system is free from--

(a) Jamming;
(b) Excessive friction; and
(c) Excessive deflection.

Amdt. 25-23, Eff. 5/8/70

Current JAR text:

JAR 25.683 Operation tests

(a) It must be shown by operation tests that when portions of the control system subject to pilot effort loads are loaded to 80% of the limit load specified for the system and the powered portions of the control system are loaded to the maximum load expected in normal operation, the system is free from -

(1)Jamming;
(2)Excessive friction; and
(3)Excessive deflection.

(b) It must be shown by analysis and, where necessary, by tests that in the presence of deflections of the aeroplane structure due to the separate application of pitch, roll and yaw limit manoeuvre loads, the control system, when loaded to obtain these limit loads and operated within its operational range of deflections can be exercised about all control axes and remain free from -

(1)Jamming;

(2)Excessive friction;

(3)Disconnection, and

(4)Any form of permanent damage.

(c) It must be shown that under vibration loads in the normal flight and ground operating conditions, no hazard can result from interference or contact with adjacent elements.

3 - What are the differences in the standards and what do these differences result in?:

The differences in the standards are discussed in item 1. The differences in the standards result in additional analyses and tests, relative to the FAR, to demonstrate compliance to the JAR

4 - What, if any, are the differences in the means of compliance?

JAA have additional requirements that may require additional tests at limit load.

5 – What is the proposed action?

Since the JAR envelopes the FAR, adopt the JAR as written.

6 - What should the harmonized standard be?

Adopt the JAR.

7 - How does this proposed standard address the underlying safety issue (identified under #1)?

The proposed change to the FAR will add specific criteria associated with control movement under structural deflection and may require additional testing for substantiation. In addition there will be a specific requirement to show that no hazard can result from interference or contact with adjacent elements under vibration.

8 - Relative to the current FAR, does the proposed standard increase, decrease, or maintain the same level of safety? Explain.

There will be some increase in the rigor with which the effects of structural load and vibration on the airplane control system are considered in the regulation,

however the new regulation retains approximately the same level of safety as the existing regulation.

9 - Relative to current industry practice, does the proposed standard increase, decrease, or maintain the same level of safety? Explain.

Maintains the same level of safety.

10 - What other options have been considered and why were they not selected?:

None

11 - Who would be affected by the proposed change?

US airplane manufacturers who do not certificate to the JAR standards would be affected by the change. These manufacturers may have to perform the additional specific tests and analysis necessary to substantiate that the requirement adopted from the JAR is complied with

12 - To ensure harmonization, what current advisory material (e.g., ACJ, AMJ, AC, policy letters) needs to be included in the rule text or preamble?

None.

13 - Is existing FAA advisory material adequate? If not, what advisory material should be adopted?

Currently there is no advisory material in either the FAR or JAR covering this regulation. Difference in interpretation of the method of compliance could exist and therefore advisory material needs to be written so that the same level of safety is achieved in certification both in the US and abroad.

14 - How does the proposed standard compare to the current ICAO standard?

ICAO does not have the specific JAR requirement.

15 - Does the proposed standard affect other HWG's?

Coordinate with the Flight Control Harmonization Working Group.

16 - What is the cost impact of complying with the proposed standard?

Not substantial.

17 - Does the HWG want to review the draft NPRM at "Phase 4" prior to publication in the Federal Register?

YES

18 – In light of the information provided in this report, does the HWG consider that the "Fast Track" process is appropriate for this rulemaking project, or is the project too complex or controversial for the Fast Track Process. Explain.

The GSHWG believes that the regulation should be enveloped under the fast track process. There is however a need to provide substantive advisory information to ensure uniform application. The GSHWG requests that it be tasked to prepare the necessary advisory material.

* * *

Recommendation Letter

Action: ARM

Pratt & Whitney
400 Main Street
East Hartford, CT 06108

Pratt & Whitney
A United Technologies Company

ANM-1 Sig

September 19, 2003

Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Attention: Mr. Nicholas Sabatini, Associate Administrator for Regulation and Certification

Subject: ARAC Recommendations, General Structures – (Operational Tests and Fuel Tank Access Covers)

Reference: ARAC Tasking, Federal Register, dated September 18, 1998 and November 26, 1999

Dear Nick,

The Transport Airplane and Engine Issues Group is pleased to submit the following as a recommendation to the FAA in accordance with the reference tasking. This information has been prepared by the General Structures Harmonization Working Group.

- General Structures HWG Report – 25.683, Operation Tests Task 11
- General Structures HWG Report – 25.963, Fuel Tank Access Covers

The FAA is asked to note that the recommendation on impact resistance of fuel tank access covers reflects a WG consensus. Consensus could not be attained on the fire resistance aspect and the dissenting opinions are documented for FAA consideration.

Sincerely yours,

Craig R. Bolt

C. R. Bolt
Assistant Chair, TAEIG

Copy: Dionne Krebs – FAA-NWR
Mike Kaszycki – FAA-NWR
Effie Upshaw – FAA-Washington, D.C.
Andy Kasowski - Cessna

Acknowledgement Letter

MAR 8 2004

Mr. Craig Bolt
Assistant Chair, Transport Airplanes and
Engines Issues Area
400 Main Street, MS 162-14
East Hartford, CT 01608

Dear Mr. Bolt,

This letter responds to several letters from the Aviation Rulemaking Advisory Committee (ARAC) on Transport Airplanes and Engines (TAE) during calendar year 2003.

Date of Letter: May 14

Purpose: A request for economic support for a proposed part 25 rulemaking addressing ice protection systems.

FAA Action/Status: Kathy Ishimaru, the Federal Aviation Administration (FAA) representative on the Ice Protection Harmonization Working Group, and George Thurston of the FAA Policy Office indicated that Mr. Thurston has already provided the economic data to the working group. No further action is warranted.

Date of Letter: July 22

Purpose: Transmittal package with opposing views related to the ease of search task from the members of the Design for Security Harmonization Working Group.

FAA Action/Status: At the June TAE ARAC meeting, after learning the working group could not reach consensus, Mr. Kaszycki asked the working group to document its views and forward the package to the FAA through ARAC. The package has since been forwarded to the Transport Airplane Directorate for review and decision.

We may request the working group to help us dispose of substantive comments once the comment period for the notice of proposed rulemaking closes. Hence, we consider the working group to be in existence, but in-active until further notice.

This letter also acknowledges receipt of several recommendation packages:

Date of Letter	Task No.	Description of Recommendation	Working Group
Sep 18	7	Working group report with a long term plan addressing the effects of multiple complex structural supplemental type certification modifications on the structural integrity and continued safe operations of transport category	Airworthiness Assurance

		airplanes	
Sep 19	11 ANM-00-083-A 9 ANM-98-466-A	Working group report that provides language for a requirement to substantiate the operation of the airplane control systems is not adversely affected (jamming, friction, disconnection, damage) by the presence of deflections of the airplane structure due to the separation of pitch, roll, and yaw limit maneuver loads (25.683) Working group report that provides harmonized rule language and advisory material for fuel tank access cover impact resistance (§ 25.963(e))	General Structures Harmonization
Oct 21	3, Part 1	Working group report addressing ventilation (heating and humidity), § 25.831(g)	Mechanical Systems Harmonization
Oct 21	3, Part 2	Working group report addressing cabin pressurization, § 25.841(a)	Mechanical Systems Harmonization
Oct 22	5	Working group report that provides harmonized § 25.571 language and accompanying advisory material for damage tolerance and fatigue evaluation of structure	General Structures Harmonization
Oct 22	6	Working group reports on widespread fatigue damage that address training syllabus, multiple element damage, and mandatory modifications	Airworthiness Assurance

I wish to thank ARAC and the working groups for the resources that industry gave to develop these recommendations. Since we consider submittal of the recommendation as completion of the tasks, we have closed the tasks, and placed the recommendations on the ARAC website at http://www1.faa.gov/avr/arm/arac/aracTransportAirplane.cfm?nav=6. The recommendation packages have been forwarded to the Transport Airplane Directorate for review and decision. We will continue to keep you apprised of our efforts on the ARAC recommendation at the regular ARAC meeting.

Sincerely,

Original Signed By
Nicholas A. Sabatini

Nicholas A. Sabatini
Associate Administrator for Regulation
and Certification

ARM-209:Eupshaw;fs:1/9/04; PC Docs #20579
cc: ARM-1/20/200/209; AIR-100; ANM-110
File #ANM-01-024-A; ANM-00-083-A; ANM-98-466-A; ANM-01-111-A; ANM-95-195-A.; ANM-99-969-A
Control Nos. 20032768-0, 20033095-0, 20033096-0, 20033097-0, 20033098-0, 20033099-0

Recommendation

March 17, 2003
L350-075-03-34

TASK 11

Mr. Craig R. Bolt
Assistant Chair, TAEIG
Pratt & Whitney
400 Main Street
East Hartford, Ct 06108

Dear Craig,

Subject: Submittal of Results of Harmonization Effort on FAR/JAR §25.683, Operation Tests

The General Structures Harmonization Working Group herewith submits the Working Group Report on the subject regulatory material to the TAEIG for acceptance and recommendation to the FAA.

Consensus of the full Harmonization Working Group (HWG) was achieved for enveloping the current FAR and JAR requirements. As a result of the original tasking, a recommendation to establish advisory material for the enveloped regulation was proposed by the group. However, further discussions resulted in the group deciding against developing new guidance material, based on existing practices by OEM's and regulators in showing and assessing compliance with this requirement. In regard to economic impact, the HWG member experience, both OEM's and regulators, indicates there will be no economic impact of this recommended enveloping of requirements.

Sincerely,

Andrew H. Kasowski
General Structures HWG Chairperson
316-517-6008
315-517-1820 FAX
akasowski@cessna.textron.com

Attachment A

General Structures Harmonization Working Group Report

Operation Tests FAR/JAR §25.683

General Structures Harmonization Working Group Report

Operation Tests FAR/JAR §25.683

Transport Airplane Directorate
WG Report Format
Harmonization and New Projects

1 - BACKGROUND:

- *This section "tells the story."*
- *It should include all the information necessary to provide context for the planned action. Only include information that is helpful in understanding the proposal -- no extraneous information (e.g., no "day-by-day" description of Working Group's activities).*
- *It should provide an answer for all of the following questions:*

a. SAFETY ISSUE ADDRESSED/STATEMENT OF THE PROBLEM

(1) What prompted this rulemaking activity (e.g., accident, accident investigation, NTSB recommendation, new technology, service history, etc.)? What focused our attention on the issue?

ARAC tasked the General Structures Harmonization Working Group to harmonize CFR 14 §25.683, Operation Tests with the corresponding requirement in JAR 25. In addition, the GSHWG was tasked to review section JAR §25.683 together with FAR proposed policy on FAR AC 23.683-1 (ACE-00-23.683-01 dated Jan 12, 2000) and develop advisory material, as deemed necessary, for the regulation.

(2) What is the underlying safety issue to be addressed in this proposal?

The purpose of the FAR is to substantiate that operation of the airplane control system is not adversely affected (jamming, friction, deflection) by structural loading up to maximum load expected in the control system in normal operation.

The JAR encompasses the FAR requirements and adds a requirement to substantiate that the operation of the airplane control system is not adversely affected (jamming, friction, disconnection, damage) by the presence of deflections of the airplane structure due to the separate application of pitch, roll and yaw limit maneuver loads. The JAR also adds a requirement to substantiate that the vibrations in the airplane in normal operation do not adversely affect (interference or contact) the control systems.

(3) What is the underlying safety rationale for the requirement?

Since control systems are typically attached to or routed through adjacent aircraft structure, it is necessary to ensure that deflections of that adjacent structure due to external loading do not adversely affect the safe operation of the control system through interference, jamming or induced loading. Likewise, the effects of vibration loads in normal flight and ground operating conditions should not affect the safe operation of the control system through interference or adverse contact with adjacent elements.

(4) Why should the requirement exist?

See Items 1 through 3 above.

b. CURRENT STANDARDS OR MEANS TO ADDRESS

(1) If regulations currently exist:

(a) What are the current regulations relative to this subject? (Include both the FAR's and JAR's.)

Current CFR 14 Part 25 text:

FAR 25.683 Operation tests.

It must be shown by operation tests that when portions of the control system subject to pilot effort loads are loaded to 80 percent of the limit load specified for the system and the powered portions of the control system are loaded to the maximum load expected in normal operation, the system is free from--

(a) Jamming;
(b) Excessive friction; and
(c) Excessive deflection.

Amdt. 25-23, Eff. 5/8/70

Current JAR text:

JAR 25.683 Operation tests

(a) It must be shown by operation tests that when portions of the control system subject to pilot effort loads are loaded to 80% of the limit load specified for the system and the powered portions of the control system are loaded to the maximum load expected in normal operation, the system is free from -

(1) Jamming;
(2) Excessive friction; and
(3) Excessive deflection.

(b) It must be shown by analysis and, where necessary, by tests that in the presence of deflections of the aeroplane structure due to the separate application of pitch, roll and

yaw limit manoeuvre loads, the control system, when loaded to obtain these limit loads and operated within its operational range of deflections can be exercised about all control axes and remain free from -

(1) Jamming;
(2) Excessive friction;
(3) Disconnection, and
(4) Any form of permanent damage.

(c) It must be shown that under vibration loads in the normal flight and ground operating conditions, no hazard can result from interference or contact with adjacent elements.

(b) How have the regulations been applied? (What are the current means of compliance?) If there are differences between the FAR and JAR, what are they and how has each been applied? (Include a discussion of any advisory material that currently exists.)

The differences in the standards are discussed in Item 1.a(2). The differences in the standards result in additional analyses and tests, relative to the FAR, to demonstrate compliance to the JAR.

Currently there is no advisory material in either CFR 14 Part 25 or JAR 25 covering this regulation. Guidance material exists for a similar requirement, 14 CFR §23.683, in AC 23.683-1 and FAA Policy material ACE-00-23.683-01 dated Jan 12, 2000. Based on the OEM and regulator experience resident within the GSHWG, no additional guidance material is deemed to be necessary.

(c) What has occurred since those regulations were adopted that has caused us to conclude that additional or revised regulations are necessary? Why are those regulations now inadequate?

It has not been concluded that CFR Part 14 §25.683 is inadequate. Rather it has been concluded that harmonization of the requirement would benefit the OEMs and certification authorities. The existing level of safety provided for in the current regulation is maintained.

2. *If no regulations currently exist:*

(a) What means, if any, have been used in the past to ensure that this safety issue is addressed? Has the FAA relied on issue papers? Special Conditions? Policy statements? Certification action items? Has the JAA relied on Certification Review Items? Interim Policy? If so, reproduce the applicable text from these items that is relative to this issue.

Not Applicable

(b) Why are those means inadequate? Why is rulemaking considered necessary (i.e., do we need a general standard instead of addressing the issue on a case-by-case basis?)

Not Applicable

2. DISCUSSION of PROPOSAL

- *This section explains:*
- → *what the proposal would require,*
- → *what effect we intend the requirement to have, and*
- → *how the proposal addresses the problems identified in Background.*
- *Discuss each requirement separately. Where two or more requirements are very closely related, discuss them together.*
- *This section also should discuss alternatives considered and why each was rejected.*

a. SECTION-BY-SECTION DESCRIPTION OF PROPOSED ACTION

(1) What is the proposed action? Is the proposed action to introduce a new regulation, revise the existing regulation, or to take some other action?

The proposed action is to envelop the current FAR and JAR requirements.

(2) If regulatory action is proposed, what is the text of the proposed regulation?

FAR/JAR §25.683 Operation tests

(a) It must be shown by operation tests that when portions of the control system subject to pilot effort loads are loaded to 80% of the limit load specified for the system and the powered portions of the control system are loaded to the maximum load expected in normal operation, the system is free from -

(1) Jamming;
(2) Excessive friction; and
(3) Excessive deflection.

(b) It must be shown by analysis and, where necessary, by tests that in the presence of deflections of the airplane structure due to the separate application of pitch, roll and yaw limit maneuver loads, the control system, when loaded to obtain these limit loads and operated within its operational range of deflections can be exercised about all control axes and remain free from -

(1) Jamming;
(2) Excessive friction;
(3) Disconnection, and
(4) Any form of permanent damage.

(c) It must be shown that under vibration loads in the normal flight and ground operating conditions, no hazard can result from interference or contact with adjacent elements.

(3) If this text changes current regulations, what change does it make? For each change:

- What is the reason for the change?
- What is the effect of the change?

The change is to encompass the JAR requirement to substantiate that the operation of the airplane control system is not adversely affected (jamming, friction, disconnection, damage) by the presence of deflections of the airplane structure due to the separate application of pitch, roll and yaw limit maneuver loads and that the vibrations in the airplane in normal operation do not adversely affect (interference or adverse contact) the control systems.

The reason for change is to harmonize the requirements between FAR and JAR.

The effect of the change is to require substantiation that the operation of the airplane control system is not adversely affected (jamming, friction, disconnection, damage) by the presence of deflections of the airplane structure due to the separate application of pitch, roll and yaw limit maneuver loads. In addition there will be a specific requirement to show that no hazard can result from interference or contact with adjacent elements as a result of vibration during normal operations.

(4) If not answered already, how will the proposed action address (i.e., correct, eliminate) the underlying safety issue (identified previously)?

The proposed change to the FAR will add specific criteria associated with control system movement under structural deflection and may require additional testing for substantiation. In addition there will be a specific requirement to show that no hazard can result from control system interference or contact with adjacent elements as a result of vibration during normal operations.

(5) Why is the proposed action superior to the current regulations?

Encompassing the existing JAR requirements into the FAR will result in a common set of requirements facilitating concurrent certifications and minimizing the effort involved in validation programs.

b. ALTERNATIVES CONSIDERED

(1) What actions did the working group consider other than the action proposed? Explain alternative ideas and dissenting opinions.

The GSHWG considered the formation of a sub-group comprised of additional control systems specialists to review the existing regulations and advisory material. These

efforts were unsuccessful, with interest from the OEM's and regulatory authorities being minimal. Additional discussions within the GSHWG based on input from the various OEM's (through consultation with their specialists) and the regulatory authorities resulted in a re-affirmation that rule enveloping was preferable and that no additional advisory material was necessary.

(2) Why was each action rejected (e.g., cost/benefit? unacceptable decrease in the level of safety? lack of consensus? etc.)? Include the pros and cons associated with each alternative.

Not applicable.

c. HARMONIZATION STATUS

(1) Is the proposed action the same for the FAA and the JAA?

Yes

(2) If the proposed action differs for the JAA, explain the proposed JAA action.

Not Applicable

(3) If the proposed action differs for the JAA, explain why there is a difference between FAA and JAA proposed action (e.g., administrative differences in applicability between authorities).

Not Applicable

3. COSTS AND OTHER ISSUES THAT MUST BE CONSIDERED

The Working Group should answer these questions to the greatest extent possible. What information is supplied can be used in the economic evaluation that the FAA must accomplish for each regulation. The more quality information that is supplied, the quicker the evaluation can be completed.

a. COSTS ASSOCIATED WITH THE PROPOSAL

(1) Who would be affected by the proposed change? How? (Identify the parties that would be materially affected by the rule change – airplane manufacturers, airplane operators, etc.)

US airplane manufacturers who do not certificate to the JAR standards would be affected by the change. These manufacturers may have to perform the additional specific tests and analyses necessary to substantiate that the requirements adopted from the JAR are

complied with. However, all major OEMs represented on the group have a practice of enveloping the FAR and JAR for this requirement and would not be affected by the proposed change.

(2) What is the cost impact of complying with the proposed regulation? Provide any information that will assist in estimating the costs (either positive or negative) of the proposed rule.

There will be no additional cost impact of complying with the proposed standard since it is common practice amongst OEMs on new aircraft development programs to envelope the FAR and JAR standards.

b. OTHER ISSUES

(1) Will small businesses be affected? *(In general terms, "small businesses" are those employing 1,500 people or less. This question relates to the Regulatory Flexibility Act of 1980 and the Small Business Regulatory Enforcement Fairness Act of 1996.]*

Small businesses will not be affected.

(2) Will the proposed rule require affected parties to do any new or additional recordkeeping? If so, explain. *[This question relates to the Paperwork Reduction Act of 1995.]*

No.

(3) Will the proposed rule create any unnecessary obstacles to the foreign commerce of the United States -- i.e., create barriers to international trade? *[This question relates to the Trade Agreement Act of 1979.]*

No.

(4) Will the proposed rule result in spending by State, local, or tribal governments, or by the private sector, that will be $100 million or more in one year? *[This question relates to the Unfunded Mandates Reform Act of 1995.]*

No.

4. ADVISORY MATERIAL

a. Is existing FAA or JAA advisory material adequate? Is the existing FAA and JAA advisory material harmonized?

Operation Tests FAR/JAR §25.683

There is no FAA or JAA advisory material currently for 14 CFR §25.683. However, Advisory material does exist for a similar requirement in 14CFR §23.683.

b. If not, what advisory material should be adopted? Should the existing material be revised, or should new material be provided?

Based on OEM and regulator experience, no additional guidance material is deemed necessary.

c. Insert the text of the proposed advisory material here (or attach), or summarize the information it will contain, and indicate what form it will be in (e.g., Advisory Circular, Advisory Circular – Joint, policy statement, FAA Order, etc.)

Not Applicable

U.S. Department of Transportation

Federal Aviation Administration

Transport Airplane Directorate
Aircraft Certification Service
Boeing Certificate Management Office
2500 East Valley Road, Suite C2
Renton, Washington 98055

Mr. Craig R. Bolt
Assistant Chair, Transport Airplane Engine Issues Group
Pratt & Whitney
400 Main Street
East Hartford, CT 06108

Dear Mr. Bolt,

This letter is to inform you of the Federal Aviation Administration's (FAA) decision with respect to instituting a moratorium on certain Aviation Rulemaking Advisory Committee (ARAC), Transport Airplane and Engine Issues Group (TAEIG) taskings. During the Novemher 2002 Harmonization Management Team Meeting, industry requested that the FAA consider placing a moratorium on certain lower priority ARAC taskings while the FAA, Joint Aviation Authorities (JAA) and Transport Canada (TCCA), worked to develop a joint rulemaking priority list. Industry requested this moratorium to conserve resources until a final rulemaking priority list could be implemented.

The FAA agreed with industry's request and has worked with the JAA and TCCA to identify appropriate ARAC TAEIG tasks to be placed under a moratorium. The taskings were identified based on the relative priority of these projects within the FAA, JAA and TCCA as well as the maturity of the project. Also, the FAA considered that addressing working groups as a whole, rather than just specific taskings, would best address industry's concern with respect to resource conservation. The working groups and taskings that have been identified for the moratorium are the following:

- General Structures Harmonization Working Group
  - 25.365(d) High Altitude Flight
  - 25.631, 25.571, 25.775 Bird Strike
  - 25.571 Fatigue and Damage Tolerance
  - 25.683 Operational Tests
  - 25.603 Material Properties
- Power plant Installations Harmonization Working Group
  - 25.903(d) Rotorburst
  - 25.975 Fuel Tank Vent Fire Protection

The FAA requests that these two working groups hold one more meeting to document the discussions, agreements, and outstanding issues or actions for each of their taskings. This information should be documented using the attached working group report format,

which is typically used by working groups to document completed TAEIG harmonization recommendations for submittal to the FAA. When the reports have been completed, they should be forwarded to the TAEIG for transmittal to the FAA.

The FAA also requests that these two working groups identify the date of their last meeting, as well as a schedule for submitting their working group report to the TAEIG and FAA.

It should be noted that this moratorium only suspends the schedules and activities associated with the working groups and taskings listed above. It does not serve to disband the working groups or revoke the related taskings. Once the joint rulemaking prioritization list is finalized and implemented, the FAA will advise TAEIG as to any further action with respect to all harmonization-working groups and their respective tasks.

Any questions regarding this issue can be directed to Mr. Mike Kaszycki at 425-227-2137 or Mike.Kaszycki@faa.gov or Ms. Dionne Krebs at 425-227-2250 or Dionne.Krebs@faa.gov.

Michael Kaszycki
Manager

cc: ARM (Tony Fazio, Florence Hamn, and Effie Upshaw)

{AE1}

Mr. Ron Priddy
President, Operations
National Air Carrier Association
1100 Wilson Blvd., Suite 1700
Arlington, VA 22209

Dear Mr. Priddy:

The Federal Aviation Administration (FAA) recently completed a regulatory program review. That review focused on prioritizing rulemaking initiatives to more efficiently and effectively use limited industry and regulatory rulemaking resources. The review resulted in an internal Regulation and Certification Rulemaking Priority List that will guide our rulemaking activities, including the tasking of initiatives to the Aviation Rulemaking Advisory Committee (ARAC). Part of the review determined if some rulemaking initiatives could be addressed by other than regulatory means, and considered products of ARAC that have been or are about to be forwarded to us as recommendations.

The Regulatory Agenda will continue to be the vehicle the FAA uses to communicate its rulemaking program to the public and the U.S. government. However, the FAA also wanted to identify for ARAC those ARAC rulemaking initiatives it is considering to handle by alternative actions (see the attached list). At this time, we have not yet determined what those alternative actions may be. We also have not eliminated the possibility that some of these actions in the future could be addressed through rulemaking when resources are available.

If you have any questions, please feel free to contact Gerri Robinson at (202) 267-9678 or gerri.robinson@faa.gov.

Sincerely,

Anthony F. Fazio
Executive Director, Aviation Rulemaking Advisory Committee

Enclosure

cc:
William W. Edmunds, Air Carrier Operation Issues
Sarah MacLeod, Air Carrier/General Aviation Maintenance Issues
James L. Crook, Air Traffic Issues
William H. Schultz, Aircraft Certification Procedures Issues
Ian Redhead, Airport Certification Issues

Billy Glover, Occupant Safety Issues
John Tigue, General Aviation Certification and Operations Issues
David Hilton, Noise Certification Issues
John Swihart, Rotorcraft Issues
Roland B. Liddell, Training and Qualification Issues
Craig Bolt, Transport Airplane and Engine Issues

ARAC Projects that will be handled by Alternative Actions rather than Rulemaking

(Beta) Reverse Thrust and propeller Pitch Setting below the Flight Regime (25.1155)
Fire Protection (33.17)
Rotor Integrity--Overspeed (33.27)
Safety Analysis (33.75)
Rotor Integrity – Over-torque (33.84)
2 Minute/30 Second One Engine Inoperative (OEI) (33.XX)
Bird Strike (25.775, 25.571, 25.631)
Casting Factors (25.621)
Certification of New Propulsion Technologies on Part 23 Airplanes
Electrical and Electronic Engine Control Systems (33.28)
Fast Track Harmonization Project: Engine and APU Loads Conditions (25.361, 25.362)
Fire Protection of Engine Cowling (25.1193(e)(3))
Flight Loads Validation (25.301)
Fuel Vent System Fire Protection (Part 25 and Retrofit Rule for Part 121, 125, and 135)
Ground Gust Conditions (25.415)
Harmonization of Airworthiness Standards Flight Rules, Static Lateral-Directional Stability, and Speed Increase and Recovery Characteristics (25.107(e)(1)(iv), 25.177©, 25.253(a)(3)(4)(50)). Note: 25.107(a)(b)(d) were enveloping tasks also included in this project—They will be included in the enveloping NPRM)
Harmonization of Part 1 Definitions Fireproof and Fire Resistant (25.1)
Jet and High Performance Part 23 Airplanes
Load and Dynamics (Continuous Turbulence Loads) (25.302, 25.305, 25.341 (b), etc.)
Restart Capability (25.903(e))

Standardization of Improved Small Airplane Normal Category Stall Characteristics Requirements (23.777, 23.781, 23.1141, 23.1309, 23.1337, 25.1305)

ATTC (25.904/App I)
Cargo Compartment Fire Extinguishing or Suppression Systems (25.851(b), 25.855, 25.857)
Proof of Structure (25.307)
High Altitude Flight (25.365(d))
Fatigue and Damage Tolerance (25.571)
Material Prosperities (25.604)

Rules and Regulations

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No.: FAA–2013–0109; Amdt. No. 25–139]

RIN 2120–AK13

Harmonization of Airworthiness Standards—Miscellaneous Structures Requirements

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This final rule amends certain airworthiness regulations for transport category airplanes, based on recommendations from the FAA-sponsored Aviation Rulemaking Advisory Committee (ARAC). This amendment eliminates regulatory differences between the airworthiness standards of the FAA and the European Aviation Safety Agency (EASA). This final rule does not add new requirements beyond what manufacturers currently meet for EASA certification and does not affect current industry design practices. This final rule revises the structural test requirements necessary when analysis has not been found reliable; clarifies the quality control, inspection, and testing requirements for critical and non-critical castings; adds control system requirements that consider structural deflection and vibration loads; expands the fuel tank structural and system requirements regarding emergency landing conditions and landing gear failure conditions; adds a requirement that engine mount failure due to overload must not cause hazardous fuel spillage; and revises the inertia forces requirements for cargo compartments by removing the exclusion of compartments located below or forward of all occupants in the airplane.

DATES: Effective December 1, 2014.

ADDRESSES: For information on where to obtain copies of rulemaking documents and other information related to this final rule, see ''How to Obtain Additional Information'' in the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Todd Martin, Airframe and Cabin Safety Branch, ANM–115, Transport Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 1601 Lind Avenue SW., Renton, WA 98057–3356; telephone (425) 227–1178; facsimile (425) 227–1232; email *Todd.Martin@faa.gov.*

For legal questions concerning this action, contact Sean Howe, Office of the Regional Counsel, ANM–7, Federal Aviation Administration, 1601 Lind Avenue SW., Renton, Washington 98057–3356; telephone (425) 227–2591; facsimile (425) 227–1007; email *Sean.Howe@faa.gov.*

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, ''General Requirements.'' Under that section, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing regulations and minimum standards for the design and performance of aircraft that the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority. It prescribes new safety standards for the design of transport category airplanes.

I. Overview of Final Rule

The FAA is amending Title 14, Code of Federal Regulations (14 CFR) 25.307(a), 25.621, 25.683, 25.721, 25.787(a), 25.963(d), and 25.994 as described below. This action harmonizes part 25 requirements with the corresponding requirements in Book 1 of the EASA Certification Specifications and Acceptable Means of Compliance for Large Aeroplanes (CS–25).

1. Section 25.307(a), ''Proof of structure,'' currently requires structural strength testing, unless the applicant has demonstrated that analysis alone is reliable. Paragraph (a) is revised to clarify the load levels to which testing is required, when such testing is required.

2. Section 25.621, ''Casting factors,'' is revised to clarify the quality control, inspection, and testing requirements for critical and non-critical castings.

3. Section 25.683, ''Operation tests,'' is revised to add a requirement that—

- The control system must remain free from jamming, friction, disconnection, and permanent damage in the presence of structural deflection and
- Under vibration loads, no hazard may result from interference or contact of the control system with adjacent elements.

4. Section 25.721, ''Landing Gear—General,'' is revised to—

- Expand the landing gear failure conditions to include side loads, in addition to up and aft loads, and expand this requirement to include nose landing gear in addition to the main landing gear,
- Specify that the wheels-up landing conditions are assumed to occur at a descent rate of 5 feet per second,
- Add a sliding-on-ground condition, and
- Require the engine mount be designed so that, when it fails due to overload, this failure does not cause the spillage of enough fuel to constitute a fire hazard.

5. Section 25.787, ''Stowage compartments,'' is revised to expand the inertia forces requirements for cargo compartments by removing the exclusion of compartments located below or forward of all occupants in the airplane.

6. Section 25.963, ''Fuel tanks: general,'' is revised to—

- Require that fuel tanks be designed so that no fuel is released in or near the fuselage, or near the engines, in quantities that would constitute a fire hazard in otherwise survivable emergency landing conditions,
- Define fuel tank pressure loads for fuel tanks located within and outside the fuselage pressure boundary and near the fuselage or near the engines, and

• Specify the wheels-up landing conditions and landing gear and engine mount failure conditions that must be considered when evaluating fuel tank structural integrity.

7. Section 25.994, ''Fuel system components,'' is revised to specify the wheels-up landing conditions to be considered when evaluating fuel system components.

II. Background

A. Statement of the Problem

Part 25 of 14 CFR prescribes airworthiness standards for type certification of transport category airplanes, for products certified in the United States. EASA CS–25 Book 1 prescribes the corresponding airworthiness standards for products certified in Europe. While part 25 and CS–25 Book 1 are similar, they differ in several respects. To resolve those differences, the FAA tasked ARAC through the Loads and Dynamics Harmonization Working Group (LDHWG) and the General Structures Harmonization Working Group (GSHWG) to review existing structures regulations and recommend changes that would eliminate differences between the U.S. and European airworthiness standards. The LDHWG and GSHWG developed recommendations, which EASA has incorporated into CS–25 with some changes. The FAA agrees with the ARAC recommendations as adopted by EASA, and this final rule amends part 25 accordingly.

B. Summary of the NPRM

On February 14, 2013, the FAA issued a Notice of Proposed Rulemaking (NPRM), Notice No. 25–137, Docket No. FAA–2013–0109, to amend §§ 25.307(a), 25.621, 25.683, 25.721, 25.787(a), 25.963(d), and 25.994. That NPRM was published in the **Federal Register** on March 1, 2013 (78 FR 13835). (The NPRM Notice No. was corrected to ''13–03'' in the **Federal Register** on April 16, 2014 (79 FR 21413)). In the NPRM, the FAA proposed to (1) revise the structural test requirements necessary when analysis has not been found reliable; (2) clarify the quality control, inspection, and testing requirements for critical and non-critical castings; (3) add control system requirements that consider structural deflection and vibration loads; (4) expand the fuel tank structural and system requirements regarding emergency landing conditions and landing gear failure conditions; (5) add a requirement that engine mount failure due to overload must not cause hazardous fuel spillage; and (6) revise the inertial forces requirements for cargo compartments by removing the exclusion of compartments located below or forward of all occupants in the airplane. The FAA proposed these changes to eliminate regulatory differences between the airworthiness standards of the FAA and EASA. The NPRM comment period closed on May 30, 2013.

C. General Overview of Comments

The FAA received 16 comments from 5 commenters. All commenters generally support the proposal, but they suggested changes discussed more fully below. The FAA received comments on each of the sections being changed, as follows:

- Section 25.307(a)—four comments
- Section 25.621—four comments
- Section 25.683—one comment
- Section 25.721—one comment
- Section 25.787(a)—two comments
- Section 25.963(d)—three comments
- Section 25.994—one comment

III. Discussion of Public Comments and Final Rule

A. Section 25.307, Proof of Structure

In the NPRM, the FAA proposed revising paragraph (a) of § 25.307 to require that, when structural analysis has not been shown to be reliable, substantiating tests must be made to load levels that are sufficient to verify structural behavior up to limit and ultimate loads of § 25.305.

One commenter stated that § 25.305 includes both limit and ultimate loads, so it is unclear which ''loads'' were intended by this change. More importantly, ''up to'' could mean any load level below limit or below ultimate and as such is indefinite. For example, an applicant could choose a load level of 10 percent of limit load and be in compliance with the proposed rule. The commenter proposed changing ''up to loads specified in § 25.305'' to ''at least limit load as specified in § 25.305.''

The FAA believes the wording proposed in the NPRM is correct, and no change is necessary. The phrase ''up to'' does not apply to the test load level; it applies to the design load level—the loads specified in § 25.305, including ultimate loads—which must be verified. The intent of the rule is that, when analysis has not been shown to be reliable, tests must be conducted to ''sufficient'' load levels. Normally, testing to ultimate load levels is required, but when previous relevant test evidence can be used to support the analysis, a lower level of testing may be accepted. The rule allows this intermediate level of testing. Advisory Circular (AC) 25.307–1, ''Proof of Structure,'' which the FAA is issuing concurrently with the final rule, provides detailed guidance on means of compliance with the rule.

Another commenter recommended changing the word ''reliable'' in the proposed rule to ''dependable and conservative.'' The term ''reliable'' has been in place since this rule was originally published in 1965. As stated in the NPRM, while the rule has changed, the rule intent remains the same. We believe ''reliable'' is appropriate and clear, and no change is necessary.

The same commenter also recommended noting that, where justified, test load levels may be less than ultimate. We do not believe this change is necessary because it is already expressed in the rule that substantiating tests must be made to load levels that are sufficient to verify structural behavior up to loads specified in § 25.305.

The same commenter also recommended the FAA add further explanation about the absolute need to validate models and when lack of validation might be acceptable. We do not believe it is necessary to revise the rule to address validation, since that subject relates to the acceptability of an applicant's showing of compliance rather than to the airworthiness standard itself. This subject is thoroughly addressed in the accompanying AC 25.307–1. We have not revised the final rule in this regard.

B. Section 25.621, Casting Factors

With this rulemaking, the FAA clarifies ''critical castings'' as each casting whose failure could preclude continued safe flight and landing of the airplane or could result in serious injury to occupants. One commenter agreed that improved foundry methods have resulted in higher quality castings but not to the point where a casting factor less than 1.25 is justified. The commenter recommended to either (1) eliminate the option for casting factors of 1.0 for critical castings, or (2) ensure that the characterization of material properties that are equivalent to those of wrought alloy products of similar composition includes the effect of defects in the static strength, fatigue, and damage tolerance requirements. The commenter provided the following examples of defects that could affect material properties: shell defects, hard-alpha contamination, shrink, porosity, weld defects, grain size, hot tears, incomplete densifications, and prior particle boundaries, among others.

The FAA does not agree with the commenter's first recommendation to eliminate the option for using a casting factor of 1.0 for critical castings. The criteria specified in the final rule will ensure product quality that is sufficient to justify using a casting factor of 1.0. According to the rule, to qualify for a casting factor of 1.0, the applicant must demonstrate, through process qualification, proof of product, and process monitoring, that the casting has coefficients of variation of the material properties that are equivalent to those of wrought alloy products of similar composition. The rule requires process monitoring that includes testing of coupons and, on a sampling basis, coupons cut from critical areas of production castings. In addition, the applicant must inspect 100 percent of the casting surface of each casting, as well as structurally significant internal areas and areas where defects are likely to occur. The applicant must also test one casting to limit and ultimate loads. The purpose of the minimum casting factor of 1.25 in the current rule is to increase the strength of the casting to account for variability in the casting process. In the final rule, the additional process, inspection, and test requirements required to use a casting factor less than 1.25 ensure a more consistent product and maintain the same level of safety as the existing standards. AC 25.621–1, ''Casting Factors,'' provides detailed guidance on the premium casting process necessary to allow a casting factor of 1.0, and the FAA is issuing that AC concurrently with this final rule.

The FAA partially agrees with the commenter's second recommendation, which is to ensure that the characterization of material properties that are equivalent to those of wrought alloy products of similar composition includes the effect of defects in the static strength, fatigue, and damage tolerance requirements. The rule requires that the characterization of material properties includes the effect of defects with regard to static strength. If any type of defect is discovered during process qualification, proof of product, or process monitoring, or by any inspection or static strength test, such that the coefficients of variation of the material properties are not equivalent to those of wrought alloy products of similar composition, then that casting would not qualify for a casting factor of 1.0. These defects include each of the examples identified by the commenter, as well as any other type of defect that could affect material properties. In addition, as noted previously, AC 25.621–1, which the FAA is issuing concurrently with the final rule, provides detailed guidance on the premium casting process necessary to allow a casting factor of 1.0. The AC includes reference to and addresses defects as proposed by the commenter.

We do not, however, agree that the characterization of material properties to determine the appropriate casting factor should include the effect of defects on fatigue and damage tolerance properties. Since casting factors apply only to strength requirements, rather than fatigue and damage tolerance requirements, the comparison of cast material to wrought material should only be based on material strength properties, rather than fatigue and damage tolerance characteristics.

Section 25.621(c)(2)(ii)(B) specifies a factor of 1.15 be applied to limit load test values to allow an applicant to use a casting factor of 1.25. Section 25.621(c)(3)(ii)(B) also specifies a factor of 1.15 be applied to limit load test values to allow a casting factor of 1.5. One commenter recommended that the 1.15 test factor in § 25.621(c)(3)(ii)(B) be scaled up by a factor of 1.2 (1.5/1.25), so as to align with the corresponding ultimate requirement. The 1.15 limit load test factor in § 25.621(c)(3)(ii)(B) would then be 1.38 (i.e., $1.5/1.25 \times 1.15$; 1.15 being required already in conjunction with the 1.25 casting factor for ultimate).

The FAA does not agree that for critical castings with a casting factor of 1.25 or 1.5, the limit load test factor should be linked to the ultimate load test factor. The ultimate and limit load tests have different purposes. The ultimate load test confirms ultimate load capability, while the limit load test confirms that no deformation will occur up to a much lower load level. Therefore, we see no reason to link the two test factors, and we believe the 1.15 factor specified in § 25.621(c)(3)(ii)(B) is appropriate, as recommended by ARAC and as currently specified in EASA CS 25.621.

The same commenter recommended modifying § 25.621(c) by adding a reference to § 25.305 for clarity—that each critical casting must have a factor associated with it for showing compliance with the strength and deformation requirement ''of § 25.305.'' We agree and have revised the final rule as recommended.

The same commenter noted that § 25.621 only refers to static testing and does not include any requirements for fatigue testing. The commenter stated that critical castings should also comply with § 25.571 concerning fatigue and damage tolerance. The commenter recommended including information to remind manufacturers of this requirement. The FAA agrees with the commenter that § 25.571 applies to critical castings. We believe the current wording in § 25.571 and the new wording in § 25.621 is sufficiently clear on this point, and no changes to these requirements are necessary.

No other public comments were received on § 25.621. However, after further FAA review, we revised the rule in several places to specify ''visual inspection and liquid penetrant or equivalent inspection methods.'' This change is to clarify ''equivalent inspection methods'' refers to the liquid penetrant inspection, and not the visual inspection. Although there is some textual difference between this and CS 25.621, there is no substantive difference between the two harmonized rules.

C. Section 25.683, Operation Tests

A commenter noted that the control systems to which § 25.683(b) applies are those control systems that obtain the pitch, roll, and yaw limit maneuver loads of the airplane structure. For example, an applicant must take into account the elevator, rudder, and aileron because these control surfaces obtain the referenced maneuver loads, while high lift systems do not need to be considered under § 25.683(b). The commenter suggested that we clarify this in the preamble to the final rule. The FAA agrees and hereby clarifies that § 25.683 only applies to those control systems that are loaded to obtain the specified maneuver loads. No change to the final rule text is necessary.

No other public comments were received on § 25.683. We would like to explain what is meant by ''where necessary'' as used in § 25.683(b). The rule states: ''It must be shown by analysis and, *where necessary,* by tests, that in the presence of deflections of the airplane structure,'' the control system operates without jamming, excessive friction, or permanent damage. The FAA may accept analysis alone to comply with this requirement. However, the FAA or the applicant may determine that, in certain cases, some testing is necessary to verify the analysis. For example, some testing may be necessary if the structure or control system is significantly more complex than a previous design, or if the analysis shows areas where the control system could be susceptible to jamming, friction, disconnection or damage. Testing may include component testing or full-scale tests.

D. Section 25.721, Landing Gear—General

A commenter proposed to add a paragraph (d) to § 25.721 to state that the conditions in paragraphs (a) through (c) must be considered regardless of the corresponding probabilities. The FAA does not believe this addition is necessary. The various failure conditions in the rule are stated directly, and the FAA intended no implication that the probability of these failure conditions may be taken into account. However, because the FAA proposed that a failure mode *not be likely* to cause the spillage of enough fuel to constitute a fire hazard, the proposal may have implied that an applicant should take probability into account to determine whether the failure conditions would lead to fuel spillage. The FAA did not intend this. Probability should not be taken into account to determine whether the failure mode will lead to fuel spillage.

No other public comments were received on § 25.721. However, after further FAA review, we revised § 25.721(b) to clarify its intent. We removed the phrase ''as separate conditions,'' which was proposed in § 25.721(b)(1)(i) and (b)(2)(i), because we believe that phrase is confusing. In § 25.721(b)(1)(ii) and (b)(2)(ii), we also changed the proposed phrase ''any other combination of landing gear legs not extended'' to ''any one or more landing gear legs not extended'' which is the same phrase used in § 25.721(b) at Amendment 25–32. We made this change to ensure that applicants are required to address every possible combination of landing gear legs not extended, including single landing gear legs not extended. This is consistent with the way EASA has applied its rule.

Both §§ 25.721(b) and 25.994 final rules use the phrase ''wheels-up landing.'' This phrase has been used in § 25.994 since that rule was adopted at Amendment 25–23. A ''wheels-up landing'' includes every possible combination of landing gear legs not extended, including single landing gear legs not extended, and all gears fully retracted.

E. Section 25.787, Stowage Compartments

To date, § 25.787(a) has required that cargo compartments be designed to the emergency landing conditions of § 25.561(b), but excluded compartments located below or forward of all occupants in the airplane. The FAA now revises § 25.787(a) to include compartments located below or forward of all occupants in the airplane. This change would ensure that, in these compartments, inertia forces in the up and aft direction will not injure passengers, and inertia forces in any direction will not cause penetration of fuel tanks or lines, or cause other hazards.

A commenter recommended revising the text to clarify that only those specific emergency landing conditions that would result in one of the three listed effects need to be considered. The FAA agrees, and we have revised the text to clarify this intent.

The same commenter suggested that fires only need to be protected against if they can result in injury to occupants, and the rule text should be revised to clarify that intent. The FAA does not agree that fires only need to be protected against if they can result in injury to occupants. The FAA believes that the wording proposed in the NPRM is correct, and no change is necessary. The requirement intends protection against any fire or explosion on the airplane. Although the FAA agrees the objective of the rule is to prevent injuries to occupants, the FAA considers any fuel tank fire or explosion in an otherwise survivable landing as potentially injury-causing.

F. Section 25.963, Fuel Tanks: General

One commenter suggested that exactly the same wording be used in § 25.963(d) and CS 25.963(d). EASA CS 25.963(d) requires that no fuel be released in quantities ''sufficient to start a serious fire'' in otherwise survivable emergency landing conditions. Proposed § 25.963(d) would have required that no fuel be released in quantities ''that would constitute a fire hazard.'' The FAA stated in the NPRM that the two phrases have the same meaning, and that proposed § 25.963(d) was more consistent with the wording of the other related sections.

The FAA is adopting the wording proposed in the NPRM as more appropriate. As noted in the NPRM, the two phrases have the same meaning, and the latter phrase is consistent with the wording in CS 25.721/§ 25.721, CS 25.963(d)(4)/§ 25.963(d)(4), and CS 25.994/§ 25.994. In addition, EASA agrees with and supports the NPRM. In recent special conditions, the FAA has defined a hazardous fuel leak as ''a running leak, a dripping leak, or a leak that, 15 minutes after wiping dry, results in a wetted airplane surface exceeding 6 inches in length or diameter.'' We regard this as an appropriate definition of the amount of fuel that would ''constitute a fire hazard'' as specified in §§ 25.721, 25.963, and 25.994.

Another commenter suggested modifying § 25.963(d)(5) to reference landing gear before engine mounts in the rule text, since these are referred to respectively in § 25.721(a) and (c). The FAA agrees and the recommended change has been made.

EASA CS 25.963(e)(2) provides the fire protection criteria for fuel tank access covers. A commenter recommended that § 25.963(e)(2) be revised to match CS 25.963(e)(2), which the commenter believes is clearer. The FAA notes that this paragraph was not addressed in the NPRM and so will not be addressed in this final rule. The FAA might consider harmonizing this paragraph in the future.

No other public comments were received on § 25.963. However, after further FAA review, we determined that further explanation of the various requirements in § 25.963(d) would be beneficial. Section 25.963(d), as revised by Amendment 25-**, requires that ''Fuel tanks must, so far as it is practicable, be designed, located, and installed so that no fuel is released in or near the fuselage, or near the engines, in quantities that would constitute a fire hazard in otherwise survivable emergency landing conditions. . . .'' In addition to this primary requirement, § 25.963(d)(1) through (d)(5) provide minimum quantitative criteria. Survivable landing conditions may occur that exceed, or are not captured by, the conditions specified in § 25.963(d)(1) through (d)(5). Therefore, to meet the introductory requirement in § 25.963(d), every practicable consideration should be made to ensure protection of fuel tanks in more severe crash conditions, especially tanks located in the fuselage below the main cabin floor.

The fuel tank pressure loads specified in § 25.963(d) vary depending on whether the fuel tank is within or outside the pressure boundary. For certification of unpressurized airplanes, all fuel tanks should be considered to be ''within'' the fuselage pressure boundary, unless a fire resistant barrier exists between the fuel tank and the occupied compartments of the airplane.

Finally, the FAA notes that, for future rulemaking, we plan to consider specific crashworthiness requirements that would exceed the quantitative criteria specified in §§ 25.561, 25.721, and 25.963. Also, the FAA has recently applied special conditions on certain airplanes that require a crashworthiness evaluation at descent rates up to 30 feet per second.

G. Section 25.994, Fuel System Components

To date, § 25.994 has required that fuel system components in an engine nacelle or in the fuselage be protected from damage that could result in spillage of enough fuel to constitute a fire hazard as a result of a wheels-up landing on a paved runway. We proposed to revise § 25.994 to specify that the wheels-up landing conditions that must be considered are those prescribed in § 25.721(b).

A commenter proposed two changes to what the FAA proposed: (1) Add a reference to § 25.721(c), and (2) change the order in which the nacelles and the fuselage are referenced, based on the order the fuselage and nacelle are addressed in § 25.721. We do not agree with the proposed changes. Adding a reference to § 25.721(c) would not be correct because wheels-up landing conditions are only listed in § 25.721(b). Since § 25.721(c) is not referenced in § 25.994, and since § 25.721(b) does not refer to the fuselage or nacelles, there is no reason to change the order in which the fuselage and nacelles are specified in § 25.994.

H. Advisory Material

On March 13, 2013, the FAA published and solicited public comments on three proposed ACs that describe acceptable means for showing compliance with the proposed regulations in the NPRM. The comment period for the proposed ACs closed on June 14, 2013. Concurrently with this final rule, the FAA is issuing the following new ACs to provide guidance material for the regulations adopted by this amendment:

- AC 25–30, ''Fuel Tank Strength in Emergency Landing Conditions.'' (AC 25–30 would provide guidance for the fuel tank structural integrity requirements of §§ 25.561, 25.721, and 25.963.)
- AC 25.307–1, ''Proof of Structure.''
- AC 25.621–1, ''Casting Factors.''

IV. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits that a statement to that effect and the basis for it be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this final rule. The reasoning for this determination follows.

The FAA is amending certain airworthiness standards for transport category airplanes. Adopting this final rule would eliminate regulatory differences between the airworthiness standards of the FAA and the EASA. This final rule does not add new requirements as U.S. manufacturers currently meet EASA requirements. Meeting two sets of certification requirements imposes greater costs for developing new transport category airplanes with little to no increase in safety. In the interest of fostering international trade, lowering the cost of manufacturing new transport category airplanes, and making the certification process more efficient, the FAA, EASA, and several industry working groups came together to create, to the maximum extent possible, a single set of certification requirements that would be accepted in both the United States and Europe. Therefore, as a result of these harmonization efforts, the FAA is amending the airworthiness regulations described in section I of this final rule, ''Overview of the Final Rule.'' This action harmonizes part 25 requirements with the corresponding requirements in EASA CS–25 Book 1.

In order to sell their aircraft in Europe, all manufacturers of transport category airplanes, certificated under part 25 must be in compliance with the EASA certification requirements in CS–25 Book 1. Since future certificated transport airplanes are expected to meet CS–25 Book 1, and this rule simply adopts the same EASA requirements, manufacturers will incur minimal or no additional cost resulting from this final rule. Therefore, the FAA estimates that there are no additional costs associated with this final rule.

In fact, manufacturers could receive cost savings because they will not have to build and certificate transport category airplanes to two different authorities' certification specifications and rules. Further, harmonization of these airworthiness standards, specifically § 25.621 may benefit manufacturers by providing another option in developing aircraft structures. The final rule permits use of a lower casting factor for critical castings, provided that tight controls are established for the casting process, inspection, and testing, which lead to cost savings in terms of aircraft weight. These additional controls are expected to at least maintain an equivalent level of safety as provided by existing regulations for casting factors.

The FAA has not attempted to quantify the cost savings that may accrue from this final rule, beyond noting that, while they may be minimal, they contribute overall to a potential harmonization savings. The agency concludes that because the compliance cost for this final rule is minimal and there may be harmonization cost savings, further analysis is not required.

During the public comment period, the Agency received 16 comments from 5 commenters. There were no comments regarding costs to this final rule; however, one commenter raised concern for safety in § 25.621. Details of this comment and the FAA's response can be found in the ''General Overview of Comments'' section. These harmonization efforts ensure that the current level of safety in transport category airplanes is maintained while encouraging the use of modern casting process technology.

The agency concludes that the changes would eliminate regulatory differences between the airworthiness standards of the FAA and EASA resulting in potential cost savings and maintaining current levels of safety. The FAA has, therefore, determined that this final rule is not a ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, and is not ''significant'' as defined in DOT's Regulatory Policies and Procedures.

B. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.'' The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify, and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA believes that this final rule does not have a significant economic impact on a substantial number of small entities for the following reasons. The net effect of this final rule is minimum regulatory cost relief, as the rule would adopt EASA requirements that the industry already meets. Further, all United States transport category aircraft manufacturers exceed the Small Business Administration small-entity criteria of 1,500 employees. The Agency received no comments regarding the Regulatory Flexibility Act during the public comment period.

If an agency determines that a rulemaking will not result in a significant economic impact on a substantial number of small entities, the head of the agency may so certify under section 605(b) of the RFA. Therefore, as provided in section 605(b), the head of the FAA certifies that this rulemaking will not result in a significant economic impact on a substantial number of small entities.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this final rule and determined that it is in accord with the Trade Agreements Act as the final rule uses European standards as the basis for United States regulation.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a ''significant regulatory action.'' The FAA currently uses an inflation-adjusted value of $151 million in lieu of $100 million. This final rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. The FAA has determined that there would be no new requirement for information collection associated with this final rule.

F. International Compatibility and Cooperation

(1) In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has identified no differences with these regulations.

(2) Executive Order (EO) 13609, Promoting International Regulatory Cooperation, (77 FR 26413, May 4, 2012) promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policy and agency responsibilities of Executive Order 13609, Promoting International Regulatory Cooperation. The agency has determined that this action would eliminate differences between U.S. aviation standards and those of other civil aviation authorities by creating a single set of certification requirements for transport category airplanes that would be acceptable in both the United States and Europe.

G. Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 312f of Order 1050.1E and involves no extraordinary circumstances.

V. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. The agency determined that this action will not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, does not have Federalism implications.

B. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a ''significant energy action'' under the executive order and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

VI. How To Obtain Additional Information

A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the Internet—

1. Search the Federal eRulemaking Portal (*http://www.regulations.gov*),

2. Visit the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies/,* or

3. Access the Government Printing Office's Web page at *http://www.gpo.gov/fdsys/.*

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591; or by calling (202) 267–9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to *http://www.regulations.gov* and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA's dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires the FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit *http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.*

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends chapter I of title 14, Code of Federal Regulations, as follows:

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

■ 1. The authority citation for part 25 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, and 44704.

■ 2. Amend § 25.307 by revising paragraph (a) to read as follows:

§ 25.307 Proof of structure.

(a) Compliance with the strength and deformation requirements of this subpart must be shown for each critical loading condition. Structural analysis may be used only if the structure conforms to that for which experience has shown this method to be reliable. In other cases, substantiating tests must be made to load levels that are sufficient to verify structural behavior up to loads specified in § 25.305.

* * * * *

■ 3. Amend § 25.621 by revising paragraphs (a), (c), and (d) to read as follows:

§ 25.621 Casting factors.

(a) *General.* For castings used in structural applications, the factors, tests, and inspections specified in paragraphs (b) through (d) of this section must be applied in addition to those necessary to establish foundry quality control. The inspections must meet approved specifications. Paragraphs (c) and (d) of this section apply to any structural castings, except castings that are pressure tested as parts of hydraulic or other fluid systems and do not support structural loads.

* * * * *

(c) *Critical castings.* Each casting whose failure could preclude continued safe flight and landing of the airplane or could result in serious injury to occupants is a critical casting. Each critical casting must have a factor associated with it for showing compliance with strength and deformation requirements of § 25.305, and must comply with the following criteria associated with that factor:

(1) A casting factor of 1.0 or greater may be used, provided that—

(i) It is demonstrated, in the form of process qualification, proof of product, and process monitoring that, for each casting design and part number, the castings produced by each foundry and process combination have coefficients of variation of the material properties that are equivalent to those of wrought alloy products of similar composition. Process monitoring must include testing of coupons cut from the prolongations of each casting (or each set of castings, if produced from a single pour into a single mold in a runner system) and, on a sampling basis, coupons cut from critical areas of production castings. The acceptance criteria for the process monitoring inspections and tests must be established and included in the process specifications to ensure the properties of the production castings are controlled to within levels used in design.

(ii) Each casting receives:

(A) Inspection of 100 percent of its surface, using visual inspection and liquid penetrant or equivalent inspection methods; and

(B) Inspection of structurally significant internal areas and areas where defects are likely to occur, using radiographic or equivalent inspection methods.

(iii) One casting undergoes a static test and is shown to meet the strength and deformation requirements of § 25.305(a) and (b).

(2) A casting factor of 1.25 or greater may be used, provided that—

(i) Each casting receives:

(A) Inspection of 100 percent of its surface, using visual inspection and liquid penetrant or equivalent inspection methods; and

(B) Inspection of structurally significant internal areas and areas where defects are likely to occur, using radiographic or equivalent inspection methods.

(ii) Three castings undergo static tests and are shown to meet:

(A) The strength requirements of § 25.305(b) at an ultimate load corresponding to a casting factor of 1.25; and

(B) The deformation requirements of § 25.305(a) at a load of 1.15 times the limit load.

(3) A casting factor of 1.50 or greater may be used, provided that—

(i) Each casting receives:

(A) Inspection of 100 percent of its surface, using visual inspection and liquid penetrant or equivalent inspection methods; and

(B) Inspection of structurally significant internal areas and areas where defects are likely to occur, using radiographic or equivalent inspection methods.

(ii) One casting undergoes a static test and is shown to meet:

(A) The strength requirements of § 25.305(b) at an ultimate load corresponding to a casting factor of 1.50; and

(B) The deformation requirements of § 25.305(a) at a load of 1.15 times the limit load.

(d) *Non-critical castings.* For each casting other than critical castings, as

specified in paragraph (c) of this section, the following apply:

(1) A casting factor of 1.0 or greater may be used, provided that the requirements of (c)(1) of this section are met, or all of the following conditions are met:

(i) Castings are manufactured to approved specifications that specify the minimum mechanical properties of the material in the casting and provides for demonstration of these properties by testing of coupons cut from the castings on a sampling basis.

(ii) Each casting receives:

(A) Inspection of 100 percent of its surface, using visual inspection and liquid penetrant or equivalent inspection methods; and

(B) Inspection of structurally significant internal areas and areas where defects are likely to occur, using radiographic or equivalent inspection methods.

(iii) Three sample castings undergo static tests and are shown to meet the strength and deformation requirements of § 25.305(a) and (b).

(2) A casting factor of 1.25 or greater may be used, provided that each casting receives:

(i) Inspection of 100 percent of its surface, using visual inspection and liquid penetrant or equivalent inspection methods; and

(ii) Inspection of structurally significant internal areas and areas where defects are likely to occur, using radiographic or equivalent inspection methods.

(3) A casting factor of 1.5 or greater may be used, provided that each casting receives inspection of 100 percent of its surface using visual inspection and liquid penetrant or equivalent inspection methods.

(4) A casting factor of 2.0 or greater may be used, provided that each casting receives inspection of 100 percent of its surface using visual inspection methods.

(5) The number of castings per production batch to be inspected by non-visual methods in accordance with paragraphs (d)(2) and (3) of this section may be reduced when an approved quality control procedure is established.

■ 4. Revise § 25.683 to read as follows:

§ 25.683 Operation tests.

(a) It must be shown by operation tests that when portions of the control system subject to pilot effort loads are loaded to 80 percent of the limit load specified for the system and the powered portions of the control system are loaded to the maximum load expected in normal operation, the system is free from—

(1) Jamming;

(2) Excessive friction; and

(3) Excessive deflection.

(b) It must be shown by analysis and, where necessary, by tests, that in the presence of deflections of the airplane structure due to the separate application of pitch, roll, and yaw limit maneuver loads, the control system, when loaded to obtain these limit loads and operated within its operational range of deflections, can be exercised about all control axes and remain free from—

(1) Jamming;

(2) Excessive friction;

(3) Disconnection; and

(4) Any form of permanent damage.

(c) It must be shown that under vibration loads in the normal flight and ground operating conditions, no hazard can result from interference or contact with adjacent elements.

■ 5. Revise § 25.721 to read as follows:

§ 25.721 General.

(a) The landing gear system must be designed so that when it fails due to overloads during takeoff and landing, the failure mode is not likely to cause spillage of enough fuel to constitute a fire hazard. The overloads must be assumed to act in the upward and aft directions in combination with side loads acting inboard and outboard. In the absence of a more rational analysis, the side loads must be assumed to be up to 20 percent of the vertical load or 20 percent of the drag load, whichever is greater.

(b) The airplane must be designed to avoid any rupture leading to the spillage of enough fuel to constitute a fire hazard as a result of a wheels-up landing on a paved runway, under the following minor crash landing conditions:

(1) Impact at 5 feet-per-second vertical velocity, with the airplane under control, at Maximum Design Landing Weight—

(i) With the landing gear fully retracted; and

(ii) With any one or more landing gear legs not extended.

(2) Sliding on the ground, with—

(i) The landing gear fully retracted and with up to a 20° yaw angle; and

(ii) Any one or more landing gear legs not extended and with 0° yaw angle.

(c) For configurations where the engine nacelle is likely to come into contact with the ground, the engine pylon or engine mounting must be designed so that when it fails due to overloads (assuming the overloads to act predominantly in the upward direction and separately, predominantly in the aft direction), the failure mode is not likely to cause the spillage of enough fuel to constitute a fire hazard.

■ 6. Amend § 25.787 by revising paragraph (a) to read as follows:

§ 25.787 Stowage compartments.

(a) Each compartment for the stowage of cargo, baggage, carry-on articles, and equipment (such as life rafts), and any other stowage compartment, must be designed for its placarded maximum weight of contents and for the critical load distribution at the appropriate maximum load factors corresponding to the specified flight and ground load conditions, and to those emergency landing conditions of § 25.561(b)(3) for which the breaking loose of the contents of such compartments in the specified direction could—

(1) Cause direct injury to occupants;

(2) Penetrate fuel tanks or lines or cause fire or explosion hazard by damage to adjacent systems; or

(3) Nullify any of the escape facilities provided for use after an emergency landing.

If the airplane has a passenger-seating configuration, excluding pilot seats, of 10 seats or more, each stowage compartment in the passenger cabin, except for under seat and overhead compartments for passenger convenience, must be completely enclosed.

* * * * *

■ 7. Amend § 25.963 by revising paragraph (d) to read as follows:

§ 25.963 Fuel tanks: general.

* * * * *

(d) Fuel tanks must, so far as it is practicable, be designed, located, and installed so that no fuel is released in or near the fuselage, or near the engines, in quantities that would constitute a fire hazard in otherwise survivable emergency landing conditions, and—

(1) Fuel tanks must be able to resist rupture and retain fuel under ultimate hydrostatic design conditions in which the pressure P within the tank varies in accordance with the formula:

$$P = K\rho gL$$

Where—

P = fuel pressure at each point within the tank

ρ = typical fuel density

g = acceleration due to gravity

L = a reference distance between the point of pressure and the tank farthest boundary in the direction of loading

K = 4.5 for the forward loading condition for those parts of fuel tanks outside the fuselage pressure boundary

K = 9 for the forward loading condition for those parts of fuel tanks within the fuselage pressure boundary, or that form part of the fuselage pressure boundary

K = 1.5 for the aft loading condition

K = 3.0 for the inboard and outboard loading conditions for those parts of fuel tanks

within the fuselage pressure boundary, or that form part of the fuselage pressure boundary

K = 1.5 for the inboard and outboard loading conditions for those parts of fuel tanks outside the fuselage pressure boundary

K = 6 for the downward loading condition

K = 3 for the upward loading condition

(2) For those parts of wing fuel tanks near the fuselage or near the engines, the greater of the fuel pressures resulting from paragraphs (d)(2)(i) or (d)(2)(ii) of this section must be used:

(i) The fuel pressures resulting from paragraph (d)(1) of this section, and

(ii) The lesser of the two following conditions:

(A) Fuel pressures resulting from the accelerations specified in § 25.561(b)(3) considering the fuel tank full of fuel at maximum fuel density. Fuel pressures based on the 9.0g forward acceleration may be calculated using the fuel static head equal to the streamwise local chord of the tank. For inboard and outboard conditions, an acceleration of 1.5g may be used in lieu of 3.0g as specified in § 25.561(b)(3).

(B) Fuel pressures resulting from the accelerations as specified in § 25.561(b)(3) considering a fuel volume beyond 85 percent of the maximum permissible volume in each tank using the static head associated with the 85 percent fuel level. A typical density of the appropriate fuel may be used. For inboard and outboard conditions, an acceleration of 1.5g may be used in lieu of 3.0g as specified in § 25.561(b)(3).

(3) Fuel tank internal barriers and baffles may be considered as solid boundaries if shown to be effective in limiting fuel flow.

(4) For each fuel tank and surrounding airframe structure, the effects of crushing and scraping actions with the ground must not cause the spillage of enough fuel, or generate temperatures that would constitute a fire hazard under the conditions specified in § 25.721(b).

(5) Fuel tank installations must be such that the tanks will not rupture as a result of the landing gear or an engine pylon or engine mount tearing away as specified in § 25.721(a) and (c).

* * * * *

■ 8. Revise § 25.994 to read as follows:

§ 25.994 Fuel system components.

Fuel system components in an engine nacelle or in the fuselage must be protected from damage that could result in spillage of enough fuel to constitute a fire hazard as a result of a wheels-up landing on a paved runway under each of the conditions prescribed in § 25.721(b).

Issued under authority provided by 49 U.S.C. 106(f), 44701(a), and 44703 in Washington, DC, on September 24, 2014.

Michael P. Huerta,

Administrator.

[FR Doc. 2014–23373 Filed 10–1–14; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2014–0366; Special Conditions No. 25–564–SC]

Special Conditions: Embraer S.A.; Model EMB–550 Airplane; Flight Envelope Protection: High Incidence Protection System

Correction

In rule document 2014–20893 appearing on pages 52165 through 52169 in the issue of Wednesday, September 3, 2014, make the following corrections:

1. On page 52169, in the first column, the 27th line from the bottom should read: ''In lieu of § 25.107(c) and (g) we propose the following requirements, with additional sections (c') and (g'):''

2. On page 52169, in the first column, the 11th line from the bottom should read: ''(c') In icing conditions with the ''takeoff ice'' accretion defined in part 25, appendix C, V2 may not be less than—''

3. On page 52169, in the second column, the eighth line from the top should read: ''(g') In icing conditions with the ''final takeoff ice'' accretion defined in part 25, appendix C, V_{FTO}, may not be less than—''

[FR Doc. C1–2014–20893 Filed 10–1–14; 8:45 am]

BILLING CODE 1505–01–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[Docket No. USCG–2014–0848]

Drawbridge Operation Regulation; Sacramento River, Rio Vista, CA

AGENCY: Coast Guard, DHS.

ACTION: Notice of deviation from drawbridge regulation.

SUMMARY: The Coast Guard has issued a temporary deviation from the operating schedule that governs the Rio Vista Drawbridge across Sacramento River, mile 12.8, at Rio Vista, CA. The deviation is necessary to allow the bridge owner to make necessary bridge maintenance repairs. This deviation allows the bridge to open on four hours advance notice during the deviation period.

DATES: This deviation is effective without actual notice from October 2, 2014 through 6 a.m. on October 17, 2014. For the purposes of enforcement, actual notice will be used from 9 p.m. on September 22, 2014, until October 2, 2014.

ADDRESSES: The docket for this deviation, [USCG–2014–0848], is available at *http://www.regulations.gov.* Type the docket number in the ''SEARCH'' box and click ''SEARCH.'' Click on Open Docket Folder on the line associated with this deviation. You may also visit the Docket Management Facility in Room W12–140 on the ground floor of the Department of Transportation West Building, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: If you have questions on this temporary deviation, call or email David H. Sulouff, Chief, Bridge Section, Eleventh Coast Guard District; telephone 510–437–3516, email *David.H.Sulouff@uscg.mil.* If you have questions on viewing the docket, call Cheryl Collins, Program Manager, Docket Operations, telephone 202–366–9826.

SUPPLEMENTARY INFORMATION: The California Department of Transportation has requested a temporary change to the operation of the Rio Vista Drawbridge, mile 12.8, over Sacramento River, at Rio Vista, CA. The drawbridge navigation span provides 18 feet vertical clearance above Mean High Water in the closed-to-navigation position. In accordance with 33 CFR 117.5, the draw opens on signal. Navigation on the waterway is commercial, search and rescue, law enforcement, and recreational.

A four-hour advance notice for openings is required from 9 p.m. to 6 a.m. daily, from September 22, 2014 to October 17, 2014, to allow the bridge owner to repair the concrete vertical lift span deck. This temporary deviation has been coordinated with the waterway users. No objections to the temporary deviation were raised.

Vessels able to pass through the bridge in the closed position may do so at any time. The bridge will be able to open for emergencies with four hour advance notice. No alternative route is available for navigation. The Coast Guard will inform waterway users of