

Federal Aviation Administration
Aviation Rulemaking Advisory Committee

Transport Airplane and Engine Issue Area
Loads and Dynamics Harmonization Working Group

Task 6 – Strength and Deformation

Task Assignment

Aviation Rulemaking Advisory Committee; Transport Airplane and Engine Issues

AGENCY: Federal Aviation Administration (FAA), DOT.

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

SUMMARY: Notice is given of new task assignments for the Loads and Dynamics Harmonization Working Group of the Aviation Rulemaking Advisory Committee (ARAC). This notice informs the public of the activities of the ARAC.

FOR FURTHER INFORMATION CONTACT: Michael H. Borfitz, Assistant Executive Director, Aviation Rulemaking Advisory Committee, Transport Airplane and Engine Issues, FAA Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (617) 238-7110, fax (617) 238-7199.

SUPPLEMENTARY INFORMATION: On January 22, 1991 (56 FR 2190), the Federal Aviation Administration (FAA) established the Aviation Rulemaking Advisory Committee (ARAC). The committee provides 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.

In order to develop such advice and recommendations, the ARAC may choose to establish working groups to which specific tasks are assigned. Such working groups are comprised of experts from those organizations having an interest in the assigned tasks. A working group member need not be a representative of the full committee. One of the working groups established by the ARAC is the Loads and Dynamics Harmonization Working Group.

The FAA announced at the Joint Aviation Authorities (JAA)-Federal Aviation Administration (FAA) Harmonization Conference in Toronto, Canada June 2-5, 1992, that it would consolidate within the ARAC structure an ongoing objective to "harmonize" the Joint Aviation Requirements (JAR) and the Federal Aviation Regulations (FAR).

Tasks

The Loads and Dynamics Harmonization Working Group's tasks are as follows:

Task 1—Interaction of Systems and Structure: Review existing special conditions for fly-by-wire airplanes and existing requirements for control systems, including automatic and/or power-operated systems, and recommend to the ARAC any new revised general requirements needed for flight control systems and structures affected by those systems (§§ 25.302, 25.671, 25.1329, part 25 appendix K).

Task 2—Continuous Turbulence Loads: Review the requirement for the continuous turbulence standard in light of the ARAC proposal for a tuned discrete gust requirement in order to determine whether the continuous turbulence requirement should be revised or removed from the FAR/JAR for better consistency with the new proposed tuned discrete gust criteria (§ 25.305(d)).

Task 3—Strength and Deformation: Review the recent requirements adopted in the FAR by Amendment 25-77 (for the design of transport airplanes against buffet and forced structural vibrations) and consider appropriate changes for the JAR and FAR to harmonize these rules (§§ 25.305 (e) and (f)).

Task 4—Design Flap Speeds: Review the current flap design loads requirements to resolve differences in interpretation between the FAA and JAA concerning the structural design stall speeds on which the flap design speeds are based. Recent measurements of gust speeds at low altitudes, where flaps are normally extended, indicate a more severe gust environment may be present. Review all aspects of the flap design load requirements, including the design airspeeds, vertical and head-on design gust criteria, and the effects of automatic retraction and load relief systems (§ 25.335(e)).

Task 5—Residual Strength Loads for Damage Tolerance: Review the differences in residual strength design load requirements between the FAR and JAR and resolve differences to harmonize this rule. Prepare a Notice of Proposed Rulemaking or make recommendations to other ARAC efforts concerning FAR § 25.571, so that they can be included in rulemaking that may be forthcoming from those efforts (§ 25.571(b)).

Task 6—Shock Absorption Tests: Review the changes recently introduced into the JAR that have resulted in differences between the FAR and JAR in regard to the requirement for shock absorption tests. Review those changes

in view of harmonizing the FAR and JAR (§ 25.723(a)).

Task 7—Rough Air Speed: The ARAC has proposed a new § 25.1517 concerning rough air speed design standards in its proposal for a tuned discrete gust requirement. This action is harmonized with the current JAR 25.1517; however, further changes in the rough air speed requirement may be needed in both the FAR and JAR. Review JAR 25.1517 and the new proposed FAR 25.1517 to determine if further changes are needed. If so, prepare a Notice of Proposed Rulemaking, or, if possible, combine these changes with other rulemaking efforts (§ 25.1517).

Task 8—Taxi, Takeoff, and Landing Roll: Prepare an advisory circular that establishes criteria that may be used to calculate rough runway and taxiway loads, as required by §§ 25.491, 25.235, and 25.305.

Task 9—Braked Roll Conditions: Review the provisions of § 25.493 of the FAR and JAR concerning the braked roll condition and finalize a harmonized Notice of Proposed Rulemaking.

Reports

For each task listed, the Loads and Dynamics Harmonization Working Group should develop and present to the ARAC:

1. A recommended work plan for completion of the task, including the rationale supporting such plan, for consideration at the meeting of the ARAC to consider transport airplane and engine issues held following publication of this notice;
2. A detailed conceptual presentation on the proposed recommendation(s), prior to proceeding with the work stated in item 3. below;
3. A draft Notice of Proposed Rulemaking, with supporting economic and other required analyses, and/or any other related guidance material or collateral documents the working group determines to be appropriate; or, if new or revised requirements or compliance methods are not recommended, a draft report stating the rationale for not making such recommendations; and
4. A status report at each meeting of the ARAC held to consider transport airplane and engine issues.

Participation in Working Group Task

An individual who has expertise in the subject matter and wishes to become a member of the 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 task(s), and stating the expertise he or

she would bring to the working group. The request will be reviewed with the assistant chairman and working group leader, and the individual will be advised whether or not the request can be accommodated.

The Secretary of Transportation has determined that the information and use of the Aviation Rulemaking Advisory Committee are necessary in the public interest in connection with the performance of duties imposed on the FAA by law. Meetings of the Aviation Rulemaking Advisory Committee will be open to the public, except as authorized by section 10(d) of the Federal Advisory Committee Act. Meetings of the working group 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 June 3, 1994.

Chris A. Christie,

*Executive Director, Aviation Rulemaking
Advisory Committee.*

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CALLING CODE 4910-13-M

Analysis completed; no recommendation resulted.



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

800 Independence Ave., S.W.
Washington, D.C. 20591

MAY 15 1998

Mr. Craig R. Bolt
Manager, Systems Development and
Validation
Pratt & Whitney
400 Main Street
Mail Stop 162-24
East Hartford, CT 06108

Dear Mr. Bolt:

We have begun an effort to close out old Aviation Rulemaking Advisory Committee (ARAC) tasks and recommendations. In our review of the oldest tasks, it became apparent that several assigned to Transport Airplane and Engine Issues can be closed.

In its most recent report, the Loads and Dynamics Harmonization Working Group has advised ARAC that no changes to 14 CFR Title 14 are necessary under Task 6 (Strength and Deformation) or Task 7 (Design Flap Speeds), and consequently the working group will not be submitting any recommendations to ARAC.

The Loads and Dynamics Harmonization Working Group also has recommended to ARAC that Task 10 (Rough Air Speed) be combined with Task 5 (Continuous Turbulence Loads).

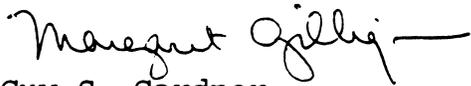
The General Structures Harmonization Working Group has advised ARAC that the substance of its Task 6 (Residual Strength Loads for Damage Tolerance) is being addressed in its Task 5 (Damage Tolerance and Fatigue) and, therefore, Task 6 can be closed.

The Engine Harmonization Working Group has advised ARAC that Task 5 (Turbine Rotor Overtemperature) is no longer considered a Significant Regulatory Difference with the Joint Aviation Authorities JAR-E regulations and, therefore, the task can be closed.

If ARAC agrees with the above, the FAA will consider Loads and Dynamics Harmonization Working Group Tasks 6, 7, and 10; Engine Harmonization Working Group Task 5; and General Structures Harmonization Working Group Task 6 closed. Please advise us as soon as possible.

If you have any questions, please call Jean Casciano on
(202) 267-9683.

Sincerely,

A handwritten signature in cursive script that reads "Margaret Gillig" followed by a horizontal line.

Guy S. Gardner
Associate Administrator for
Regulation and
Certification