

Federal Aviation Administration  
Aviation Rulemaking Advisory Committee

General Aviation Certification and Operations Issue Area  
Part 23 Electrical Systems Harmonization Working Group  
**Task 1 – Miscellaneous Systems and Part 23**

## **Task Assignment**

[Federal Register: August 22, 2001 (Volume 66, Number 163)]

[Notices]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; General Aviation Certification and Operations Issues--New Task

AGENCY: Federal Aviation Administration (**FAA**), DOT.

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

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SUMMARY: The **FAA** assigned the Aviation Rulemaking Advisory Committee a new task to evaluate miscellaneous systems and recommend rulemaking to address system safety that would improve the safety of part 23 airplanes. This notice is to inform the public of this ARAC activity.

FOR FURTHER INFORMATION CONTACT: Leslie Taylor, Aerospace Engineer,

Federal Aviation Administration, Central Region Headquarters, 901  
Locust, Kansas City, Missouri 64106, (816) 329-4134,  
[leslie.taylor@faa.gov](mailto:leslie.taylor@faa.gov).

SUPPLEMENTARY INFORMATION:

Background

The **FAA** established the Aviation Rulemaking Advisory Committee to provide advice and recommendations to the **FAA** Administrator on the **FAA**'s rulemaking activities with respect to aviation-related issues. This includes obtaining advice and recommendations on the **FAA**'s commitments to harmonize Title 14 of the Code of Federal Regulations (14 CFR) with its partners in Europe and Canada.

The Task

Evaluate the requirements for systems in the sections below and recommend rulemaking changes, in the form of an NPRM, to address systems safety which would improve the safety of part 23 airplanes--

Revise Sec. 23.735 to clarify the requirement for operation of brakes after a single failure in the braking system in commuter category airplanes.

Revise Sec. 23.1301 by deleting paragraph (d), and revise Sec. 23.1309 to include warning requirements, probability values, and failure conditions applicable to powerplant systems; and make warning requirements compatible with other regulations; and delete paragraph (c) and (d).

Add a new Sec. 23.1310, Power Source Capacity and

Distribution from existing paragraphs 23.1309 (c) and (d).

Revise Sec. 23.1311 to address redundancy requirements for primary flight instruments; define ``indicator'', the sensory cue requirements in paragraph (a)(6), and delete the redundancy requirement in paragraph (b).

Review and revise Secs. 23.1326(b)(1) and 23.1322 requiring the amber light to be illuminated when the pitot tube heater is ``off''.

Review and revise Sec. 23.1311 to call out required flight instruments as indicated in Secs. 23.1303 and 91.205.

Schedule: The draft NPRM is to be submitted no later than December 31, 2002.

#### ARAC Acceptance of Task

ARAC accepted the task and assigned the task to the newly formed Part 23 Electrical Systems Harmonization Working Group, General Aviation Certification and Operations Issues. The working group serves as staff to ARAC and assists in the analysis of the assigned tasks. ARAC must review and approve the working group's recommendations. If ARAC accepts the working group's recommendations, it will forward them to the **FAA**. Recommendations that are received from ARAC will be submitted to the agency's Rulemaking Management Council to address the availability of resources and prioritization.

#### Working Group Activity

The part 23 Electrical Systems Harmonization Working Group is

expected to comply with the procedures

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adopted by ARAC. As part of the procedures, the working group is expected to:

1. Recommend a work plan for completion of the task, including the rationale supporting such a plan for consideration at the next meeting of the ARAC on general aviation certification and operations issues held following publication of this notice.
2. Give a detailed conceptual presentation of the proposed recommendations prior to proceeding with the work stated in item 3 below.
3. Draft the appropriate documents, required analyses, and any other related materials or documents.
4. Provide a status report at each meeting of the ARAC held to consider general aviation certification and operations issues.

#### Participation in the Working Group

The part 23 Electrical Systems 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 or a member of the full committee.

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, and stating the expertise he or she would bring to the working group. We must receive

all requests by September 7, 2001. The co-assistant chairs, the co-assistant executive directors, and the working group chairs will review the requests. We will advise individuals whether or not we can accommodate their request.

Individuals chosen for membership on the working group will be expected to represent their aviation community segment and actively participate in the working group (e.g., attend all meetings, provide written comments when requested to do so, etc.). We also expect them to devote the resources necessary to support the working group in meeting any assigned deadlines. Members must keep their management chain and those they represent advised of working group activities and decisions to ensure that the proposed technical solutions do not conflict with their sponsoring organization's position when the subject being negotiated is presented to ARAC for approval.

Once the working group has begun deliberations, members will not be added or substituted without the approval of the co-assistant chairs, the co-assistant executive directors, and the working group chairs.

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

Meetings of the ARAC are open to the public. Meetings of the part 23 Electrical Systems Harmonization Working Group are not open to the public, except to the extent that individuals with an interest and expertise are selected to participate. The **FAA** makes no public announcement of working group meetings.

Issued in Washington, DC, on August 16, 2001.

Anthony F. Fazio,

*Executive Director, Aviation Rulemaking Advisory Committee.*

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**Analysis completed; no recommendation resulted.**

[Federal Register: September 10, 2003 (Volume 68, Number 175)]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; General Aviation  
Certification and Operations Issues

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice; assignment of new tasks to the Aviation Rulemaking Advisory Committee (ARAC) and withdrawal of prior tasks.

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SUMMARY: This notice announces the withdrawal of four prior ARAC tasks, and describes two new tasks assigned to and accepted by the ARAC. This notice informs the public of the ARAC activities and invites public participation in the ARAC working groups.

FOR FURTHER INFORMATION CONTACT: Mr. David Showers, Manager, Standards Office, 901 Locust, Kansas City, Missouri 64106, (816) 329-4110, [david.r.showers@faa.gov](mailto:david.r.showers@faa.gov).

SUPPLEMENTARY INFORMATION:

Background

The FAA set up the Aviation Rulemaking Advisory Committee (ARAC) to give recommendations to the FAA Administrator on aviation-related rulemakings. The Secretary of Transportation determined the formation and use of the ARAC are necessary and in the public interest in performing duties imposed on the FAA by law.

In 1992, the JAA and the FAA committed to harmonizing, where proper and to the maximum extent possible, the FAR (Federal Aviation Regulations) and JAR (Joint Aviation Requirements) rules and associated materials. However, since the new ARAC tasks will not result in a change to the FAR (i.e., 14 CFR part 23) or the associated guidance material, formal harmonization with the JAR is not planned. The FAA will share the ARAC's recommendations and the FAA's actions on them with the JAA. Although the FAA is not currently planning rulemaking action as a result of these tasks, if such action is proper in the future, harmonization with the JAR will be undertaken.

New Tasks

The FAA assigned and the ARAC accepted the two tasks described in this section. Each task is to be done in two phases.

Task I: Develop safety standards suitable for all jet and high-performance airplanes up to 19,000 pounds, including those in the

commuter category.

This task is intended to create safety standards that would be available to address future part 23 jets and high-performance airplane configurations. It would provide industry with a better understanding of potential requirements before committing to a project involving

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these airplanes. The safety standards would include performance, systems, occupant protection, and other issues for jets and high-performance part 23 airplanes.

#### Task I: Phase 1

1. Define ``high performance'' as it relates to high-performance airplanes; and
2. Review 14 CFR part 23 as a benchmark and identify safety concerns that are not currently addressed for jet and high-performance part 23 airplanes. Give particular attention to commuter and other part 23 airplanes used in part 135 service.
3. As part of the evaluations, consider the following:
  - [sbull] Systems issues such as stick pushers and integrated flight controls
  - [sbull] Structures issues such as mach effects (compressibility) and bird strike
    - [sbull] Powerplant location issues
    - [sbull] Aircraft performance issues such as accelerate-stop distance, single-engine climb, mach buffet, stall speed
    - [sbull] Cabin safety issues, including Occupant Protection for Commuter Category Airplane Crashworthiness (Dynamic Seats), Fireblocking Provisions, Thermal/Acoustic Insulation
    - [sbull] Cockpit display issues (multifunction displays, primary flight displays)

#### Schedule Task I: Phase 1

The ARAC should complete phase 1 of task I and forward their recommendations to the FAA by March 10, 2004.

#### Task I: Phase 2

1. Recommend safety standards to address the safety concerns identified in phase 1 of task I, unless the project is withdrawn or changed by the FAA.

#### Schedule Task I: Phase 2

The ARAC should complete this task and forward their recommendations to the FAA by September 12, 2005.

Task II: Develop safety standards suitable for emerging propulsion-type technologies related to installing reciprocating engines in part 23 airplanes.

Task II would create safety standards that would be available to address installing equipment associated with known emerging propulsion-type technologies on part 23 airplanes. These standards would address technologies such as diesel engines, electronic engine and propeller controls, electronic engine displays, and so forth. They would give

industry information on the possible safety requirements in these areas before they committed resources to a related project.

#### Task II: Phase 1

1. Review 14 CFR part 23 as a benchmark and identify safety concerns that are not currently addressed for emerging propulsion-type technologies related to the installation of reciprocating engines in part 23 airplanes.

2. As part of the evaluations, consider the following:

- [sbull] Single lever power control (SLP)
- [sbull] Electronic engine control (EEC) and propeller controls
- [sbull] Fuel quantity calibration and low-fuel warning systems
- [sbull] Diesel engine installations, which include consideration of the way fuels are addressed in part 23
- [sbull] Electronic engine displays
- [sbull] Other technologies the Committee finds suitable

#### Schedule for Task II: Phase 1

The ARAC should complete phase 1 of task II and forward their recommendations to the FAA by March 10, 2004.

#### Task II: Phase 2

1. Recommend safety standards to address the safety concerns identified in phase 1 of task II, unless the project is withdrawn or changed by the FAA.

#### Schedule for Task II: Phase 2

The ARAC should complete phase 2 of task II and forward their recommendations to the FAA by September 12, 2005.

#### ARAC Acceptance of Tasks

The ARAC accepted the tasks and has agreed to the schedules for completing the tasks. The Committee will assign the tasks to the newly formed working groups under General Aviation Certification and Operations Issues.

#### Working Group Activity

The working group will serve as staff to ARAC and help in the analysis of the assigned tasks. ARAC must review and approve the working groups' recommendations. If ARAC accepts the working groups' recommendations, they will forward them to the FAA as ARAC recommendations.

The Part 23 Jet and High-Performance Airplane Safety Standards Working Group and the Part 23 Emerging Propulsion-type Technologies Working Group are expected to comply with the procedures adopted by ARAC. As part of the procedures, the working groups are expected to:

1. Recommend a work plan for completion of the task, including the rationale supporting such a plan for consideration at the next meeting of the ARAC on General Aviation Certification and Operations issues held following publication of this notice.

2. Give a detailed conceptual presentation of the proposed

recommendations before proceeding with the work stated in item 3 below.

3. Draft the appropriate documents, required analyses, and any other related materials or documents.

4. Provide a status report at each meeting of the ARAC held to consider general aviation certification and operations issues.

#### Participation in the Working Group

Each working group will be composed of technical experts with an interest in the assigned task. Working group participants should be prepared to devote a significant portion of their time and resources to the ARAC task. A working group member need not be a representative or a member of the ARAC. Individuals who want to become a member of one of the working groups should contact the person listed under the FOR FURTHER INFORMATION CONTACT section of this notice. They should describe their interest in the task, and state the expertise they would bring to the working group. All requests to take part in these tasks must be received by October 10, 2003. The co-assistant chairs, the co-assistant executive directors, and the working group chair will review all requests and advise which requests they can grant.

Individuals chosen for membership in a working group are expected to represent their part of the aviation community and actively participate in the working group (e.g., attend all meetings, provide written comments when requested, etc.). In addition, they are expected to keep their management chain and those they may represent advised of working group activities and decisions to ensure that the proposed technical solutions do not conflict with their sponsoring organization's position.

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

Meetings of the ARAC will be open to the public. Meetings of the working groups will not be open to the public, except those individuals selected as working group members. The FAA will make no public announcement of working group meetings.

#### Withdrawn Tasks

This notice also announces the withdrawal of four prior tasks assigned to the ARAC. Two of these tasks were

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published on March 21, 2001 (66 FR 14427; 66 FR 14428), one on June 6, 2001 (66 FR 30500), and one on August 22, 2001 (66 FR 44201).

A description of the withdrawn tasks follows.

#### Occupant Protection and Safety Standards

The FAA tasked the ARAC to review occupant protection standards to address criteria for improved occupant protection commonly used on part 23 airplanes, and develop requirements to improve the safety of part 23 airplanes. The ARAC's recommendations were to include an assessment of--

1. Flammability Standards for Seat Fireblocking Provisions;
2. Standardization of Emergency Landing Dynamic Conditions;
3. Thermal/Acoustic Insulation Flammability;

4. Airworthiness Certification of Airplanes Used in Cargo/Passenger Combination Operations;
5. Emergency Exit Markings;
6. Emergency Exit Access; and
7. Electric Cables and Equipment.

To consolidate FAA and industry resources, the FAA withdraws this task and includes it in new Task I described in this notice. Although the entire withdrawn task is not included in the new task, the FAA has determined that the intended results from the withdrawn task will be accomplished with new Task I.

#### Propulsion Certification Requirements

The FAA tasked ARAC to review part 23 standards to evaluate criteria for propulsion technologies used on part 23 airplanes and requirements that would improve the safety of part 23 airplanes. The ARAC recommendations were to include an evaluation of--

1. Turbofan/jet installations;
2. Single level power controls;
3. Electronic engine controls;
4. Fuel quantity calibration and low fuel warning for reciprocating engines;
5. New technology reciprocating engines (for example, diesel engines);
6. New technology powerplant displays; and
7. Various miscellaneous updates to part 23 powerplant requirements.

To consolidate FAA and industry resources, the FAA withdraws this task and incorporates it in new Task II described in this notice.

#### Static Directional and Lateral Stability

The FAA tasked the ARAC to review Sec. 23.177 and JAR 23 and make recommendations on harmonized changes to Sec. 23.177 for demonstrating positive dihedral effect in all landing gear and flap positions that would improve the safety of part 23 airplanes. The ARAC's recommendations were to include a draft notice of proposed rulemaking with preamble language, rule language, and any supporting legal analysis.

#### Miscellaneous Systems Standards

The FAA tasked the ARAC with evaluating the requirements for systems in the following CFR sections and make recommendations to address systems safety that would improve the safety of part 23 airplanes:

1. Revise Sec. 23.735 to clarify the requirement for operation of brakes after a single failure in the braking system in commuter category airplanes.
2. Revise Sec. 23.1301 by deleting paragraph (d); revise Sec. 23.1309 to include warning requirements, probability values, and failure conditions applicable to powerplant systems; make warning requirements compatible with other regulations; delete paragraphs (c) and (d).
3. Add a new Sec. 23.1310, Power Source Capacity and Distribution, from existing paragraphs 23.1309(c) and (d).
4. Revise Sec. 23.1311 to address redundancy requirements for

primary flight instruments; define ``indicator,'' the sensory cue requirements in paragraph (a)(6); delete the redundancy requirement in paragraph (b).

5. Review and revise Sec. Sec. 23.1326(b)(1) and 23.1322 to require the amber light to be illuminated when the pitot tube heater is ``off.''

6. Review and revise Sec. 23.1311 to call out required flight instruments as indicated in Sec. Sec. 23.1303 and 91.205.

The FAA withdraws these tasks to free-up resources that will allow the FAA and industry to focus on other priorities. Withdrawal of these tasks does not prohibit the FAA from issuing future notices on these subject matters or committing the agency to a future course of action.

Issued in Washington, DC, on September 5, 2003.

Tony F. Fazio,  
Executive Director, Aviation Rulemaking Advisory Committee.  
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