

**Aviation Rulemaking Advisory Committee (ARAC)
Transport Airplane and Engine Issues**

Meeting Minutes

DATE: June 27-28, 2000
TIME: 8:30 a.m.
LOCATION: Boeing – Building 10-16
535 Garden Avenue
Renton, Washington

Call to Order/Administrative Reporting

Craig Bolt, Assistant Chair, called the meeting to order and welcomed the attendees who in turn introduced themselves. (See attached sign-in sheet.) Dorenda Baker, Assistant Executive Director, read the required statement explaining the rules governing the conduct of the meeting. Mr. Bolt noted changes to the agenda (handout 1), and directed members' attention to the Items of Interest Since March 2000 Meeting, E-mail Log, and Open Taskings Chart (handouts 2 through 4). The group then reviewed the March Meeting Action Items, noting the following:

Item	Action
1, 2	Completed
3	JAR section 1 on internet; ACJ's not
4, 5	Ongoing
6, 7	Completed
8	Thaddee Sulocki and Kris Carpenter to complete action item by September TAE meeting; ongoing action.
9	Completed
10	Ongoing
11-14	Completed

FAA Report

- ◆ **Status of FAA Rulemaking Projects--**Ms. Carpenter indicated that the rulemaking database projects maintained by the Transport Airplane Directorate (ANM) had been distributed electronically to members before the meeting. Ms. Baker reported that the FAA had received a substantial number of fast track reports and that the FAA's next step would be to develop rulemaking project records (rpr).
- ◆ **Fast Track ARAC Update--**Ms. Carpenter reported that the FAA Administrator had signed an order delegating signature authority to ANM for fast track projects. Ms Baker noted that the first fast track proposed rule on fire protection requirements, Notice No. 00-0004, was published June 12 in the *Federal Register*. Ms. Carpenter requested that members provide comments on the fuel vent fire protection and high altitude Terms of Reference (TOR) by July 14.
- ◆ **FAA/JAA Annual Meeting--**Ms. Baker distributed a summary document (handout 5) and highlighted the events at the FAA/JAA Conference. Discussion items included a revelation that 90% of the objective of the Better Plan had been met; the need for the FAA and JAA to

do a better job of monitoring validation programs; and the FAA/JAA commitment to develop TOR's addressing (1) one globally accepted design code, and (2) a single worldwide certification standards and process. Members were instructed to contact Jim Jones (FAA) or Yves Morier (JAA) for the design TOR, or Beth Erickson (FAA) or Koos van der Spek (JAA) for the one single certification standard TOR. Both TOR's are to be ready sometime in October. Other discussion items included the need to update ICAO and to request its assistance in developing the TOR's; proven outcome of industry and authorities working together; and the need for the authorities to keep working groups informed (e.g., at the HMT meeting). Bob Robeson indicated that AIA (www.aia-aerospace.org) and AECMA (www.aecma.org) would be posting information from the annual FAA/JAA conference on their websites.

- ◆ **Ground Handling TOR**—All comments are being forwarded to Mr. Bolt. Ed Kupcis indicated that there is a need to align research schedules with completion dates, and Bill Schultz expressed concern with the methodology.
- ◆ **Fuel Tank Inerting TOR**—Ms. Baker indicated that the comment date would be extended until sometime after the August EXCOM meeting. Some members advised that several areas needed clarification. Discussion items included FAA's intent to issue a report; the relationship of the 1998 ARAC tasking on fuel tanks; flammability requirements; Safety Board (NTSB) recommendations; feasibility/cost/safety benefits study; process for providing industry comments; EXCOM's review period; comments from the Fuel System Leadership Team; FAA's intent to publish the task in the *Federal Register* by July 13; and the need to have an NTSB representative on the working group. Comments on the TOR are due June 30. Mike Collins requested that he be copied on all comments at mike.collins@faa.gov.
- ◆ **“Room for Guidance and Procedures Development Additional to the Green Book”**—Ms. Carpenter indicated that questions had been raised about working group membership (e.g., addition of members to working group, what constitutes membership and who votes in working groups) and working group meetings (e.g., minimum number of working group participants needed to hold a meeting and how to go about rescheduling meeting dates). In addition, discussion items included when to bring in expertise not found in group. Ms. Carpenter, Ms. Baker, Brenda Courtney, and Mr. Bolt are to develop temporary guidance to address issues raised.

JAA Report

Thaddee Sulocki briefed the committee on the JAA Agenda for Change, which is in the implementation phase. The agenda evolved from a 1997 recommendation to move rulemaking responsibility from regulation to certification; the change was not made at the time because of limited resources. The agenda is expected to be in place by 2001. In summary, Mr. Sulocki indicated that:

- The JAA Organization equals governing body and executive body
- Governing body equals JAA Board and JAA Committee with well defined mandate.
- The joint steering assembly for maintenance JBC and JBO.

With the change, the Interested Parties Advisory Panel will replace the JSA (JBM/JBO/JBC), and the Secretary General will become Chief Executive. The concepts are being developed and the JAA will have to define the level of steering groups. The change is expected to bring about fuller participation.

Human Factors Harmonization Working Group (HFHWG)

Curt Graeber and Didier Ronceray reported via telephone. (Mr. Kupcis distributed a status report (handout 6)). Mr. Graeber reported that the working group is comprised of experts from the human factors, pilots, regulations, certification, and design areas. Four subgroups have been setup, milestone schedules have been developed, and some part of the scope has been defined. Of the four subgroups, one is reviewing regulatory and advisory material, while another is looking at incidents, accidents, and certification experience. He stated that the website has not been as successful as envisioned. Also, the HFHWG plans to meet with the Avionics HWG which is meeting at the same hotel.

Both Mr. Ronceray and Mr. Graeber expressed concerns about the status of the UK CAA A-NPA 25.310 and the JAA's plan for the NPA; the NPA appears to overlap considerably the HFHWG taskings. Mr. de Gouttes said that as a member of the JAA Regulations Advisory Panel, he had not seen the A-NPA. Other discussion items included followup with Mr. Sulocki regarding the JAA's knowledge of UK CAA A-NPA, the potential of changing the working group's schedule to complete the task because of workload involving regulations review, recordkeeping for regulatory document review, and the amount of time necessary for scheduling documents for TAE review and approval.

Transport Canada Civil Aviation (TCCA)

Mr. Maher Khouzam reported that the TCCA and the FAA agreed to harmonize their certification system, as much as practicable and to accept each other's generated design data. He advised that on June 12, 2000, Canada and the US finally signed the BASA, and that the TCCA and the FAA are completing the IPA. However, the problem raised by the FAA attorneys over the Memorandum of Understanding on repairs, signed earlier, i.e., "the FAA must do their own finding" had to be resolved before the IPA could be completed and signed; the FAA agreed to seek a solution to this hurdle.

Mr. Khouzam also reported on the signing of the first 21N arrangement between the JAA and TCCA during the FAA/JAA annual conference and the decision of the signatories to replace this one-way arrangement, with a two-way arrangement by June 2001.

Executive Committee (EXCOM) Meeting

Ms. Courtney indicated that no new issues were raised at the May 10 EXCOM Meeting. Two issues were revisited—policy of proxy voting and location of ARAC meetings. ACAP and AFA members raised issue about the difficulties in attending ARAC meetings and the need to use proxy votes when organizations were unable to attend meetings. As a result of the discussion, Tony Fazio, ARAC Chair, is to develop guidance language by the August 9 EXCOM meeting at the FAA headquarters building. The ACAP member raised the issue of ARAC meeting locations and, in fact, approached the FAA Administrator. In doing research, the FAA found that FACA procedures required that committee meetings, in fact, be held in Washington, D.C, in a Federal building to limit costs. A DOT Order related to FACA meeting states that, if it is more convenient to hold meetings outside DC, an agency should submit a formal request to the DOT office responsible for adherence to FACA procedures.

Discussion items included confusion about EXCOM and ARAC issues group meetings, the need to understand the terms "issues groups" and "subcommittee" as used in the FACA Order, the

need for cost benefit studies for meetings held outside the DC area, and the FAA submitting one blanket request to the appropriate DOT official to apply to all issue group meetings held outside the DC area. The International Association of Firefighters has joined ARAC and is expected to work on issues involving airports.

Engine HWG Report

Mr. Bolt indicated that the EHWG is finishing an advisory circular associated with § 33.28. Mr. Bolt also indicated that he would forward a draft tasking to have the EHWG dispose of comments affecting an advisory circular on continued airworthiness methodology; the tasking has a relatively short time frame. The AC was not an original ARAC project.

Avionics HWG

Clark Badie, reporting by telephone, highlighted the following activities:

Section	Discussion/Action
25.1328	--JAR language more stringent than FAR --Clarification needed to correct amount of error for cumulative degrees to stabilize magnetic indicator --Unanimous vote to forward to FAA, as amended, by taking wording in JAR, updating ACJ, and incorporating into advisory material
25.1322 and AC 25-11 (draft)	--Discussion items included having AC 25-11 reflects a loss of navigation and communication of no more than 10 (-7), looking at AC 23-1311 addressing display for small airplanes for rethinking equipment modernization and related advisory material, and coordination with other working groups
25.1323(b)	Working group has received some comments; will resubmit improvements to AC; no change to rule

General Structures HWG

Amos Hoggard distributed a status report (handout 7), and highlighted the following activities:

Section	Discussion/Action
25.631,25.775, and 25.571	HWG has received comments from the JAA and FAA; the agencies' positions are different
25.307	--No change; one HWG member removed his opposition; --Unanimous vote to forward to FAA

25.603	--NPA 25D-256 will disharmonize regulations; TOR has been drafted --The HWG report shows the FAR and JAR are equal --Unanimous vote to forward to FAA as is --Coordination and comment on TOR due by end of July
25.621	--No basic substantive differences from what was discussed during May meeting --Unanimous vote to forward to FAA
25.683	--WG revised cost statement --Unanimous vote to forward to FAA
TOR on 25.683	--Policy statement in part 23 only thing that exists --Comments on TOR due to Ms. Carpenter by end of July
25.571	Will be returned to HWG to harmonize with amendment 96

Airworthiness Assurance Working Group

Mr. Hoggard reported that the draft rule and advisory circular on widespread fatigue have been written. TOGAA is engaged in making comments to the advisory material. He expressed concern that the group's comments may become a major problem because of the group's narrow viewpoint. Two more meetings are scheduled with an additional one scheduled for October if necessary. The working group plans to submit its recommendation for vote at the TAE December meeting.

Ice Protection HWG

Dennis Newton distributed a status report (handout 8). He indicated that the schedule for task 1 is currently at risk and is dependent on the turnaround time for the legal/technical review. The working group intends to work on the proposed certification rule at its next meeting, and will submit the package for concept approval at the September TAE meeting. Ms Baker indicated that she would look into whether the operational rule will be signed by Flight Standards or Aircraft Certification and report back at the next meeting. The working group has had operations representation on the group from its inception.

With regard to task 2, the working group has formally requested that reference to part 23 be removed. Mr. Bolt indicated that he would be forwarding the request to the FAA. Mr. Newton expressed concerns that some working group members only attend meetings intermittently or not at all and that retirements and job changes had affected representations. Mr. Robeson and Mr. Bolt indicated that they would request the Regional Airline Association to provide a representative.

Powerplant Installation HWG

Mr. Andrew Lewis-Smith distributed status report (handout 9) and then highlighted the following actions:

Section	Discussion/Action
25.1193	<p>--Minority position were withdrawn and new wording inserted into the report</p> <p>--Mr. Bettcher requested clarification on item 12 and 13 regarding what advisory material/policy should be included in the rule; expressed concern with option 4 in item 10 which indicated that complete enveloping could impose unwarranted cost and weight penalties report; and expressed concern that the level of safety would be reduced. He indicated that he was looking for data that supports justification for the option and would e-mail Mr. Lewis-Smith information that he thinks needs to be added</p> <p>--Report to be forwarded to members for an electronic vote</p>
25.1187 and .863	Will be delivered to TAE before November 1
25.904, Appendix I	<p>--Working group needs 2 to 3 more weeks to look at rule change</p> <p>--Mr. Kupcis emphasized the need to meet schedules; Mr. Lewis-Smith indicated that he would attempt to accelerate report delivery by using e-mails and telecons to make date. Mr. Robeson suggested that the working group look at the September TAE meeting date and work back.</p>
Proposed TOR on Fuel Vent System	<p>--Comments due to Ms. Carpenter by July 30</p> <p>--Mr. Lewis-Smith indicated that the time for completion is too short and that there is no fuel system expertise in the working group; Mr. Robeson indicated that he would provide names; Ms. Carpenter indicated that the tasking notice would request names of interested parties</p>

Mr. Lewis-Smith also requested a policy/ruling on voting members of PPIHWG. He stated that even though the green book discourages voting and encourages consensus, voting continues as a means for consensus in the working group. Mr. Bolt, Ms. Baker, and Ms. Courtney are to provide interim guidance.

Ms. Carpenter asked for input on how TAE wants to proceed with the proposed TOR addressing 25.903(d). The TOR would amend the existing task to better refine the term “minimization of hazard.” No activity has been conducted by working group during the last 9 months. Options included (1) closing out original task, or (2) not to do any further work until the FAA provides clarification. Members agreed that task should be closed out; Ms. Carpenter to provide draft TOR to Mr. Bolt by July 7 to distribute to issues group.

Seat Testing HWG

Ms. Carpenter indicated the FAA Reauthorization Act (2000) has the FAA looking at seat testing. The FAA is obligated to respond to Congress in July, and it is attempting to determine how it can use what the working group has already provided. The FAA may need to retask the working group if it cannot use the recommendation submitted earlier by TAE.

Mr. Kupcis indicated § 25.562 has not been harmonized and needs to be tasked.

Design for Security HWG

Tom Murray presented a phase 1 report (handout 10) for approval and summarized the working group's activities during its last three meetings. Discussion items included looking at the applicability of the rule (61 or more passengers or aircraft with a maximum weight of 100,000 pounds); identification of least risk bomb location as it relates to business, small regional, or small cargo airplanes; and distinction of business and commercial operations under part 25. Members approved the phase 1 report unanimously. Mr. Murray closed his report by announcing that he would be leaving his employer and that a new working group chair is needed.

Braking Systems HWG

Bob Armberg distributed a working group report (handout 11) and briefed participants on the major comments (operating handle/brake pedal exclusion; parking brake engine thrust level; objection to addition of most severe landing (MSL); objection to addition of crosswind requirement to MSL, and duration of parking brake application after rejected take off and MSL). Discussion items included why airplane testing was not addressed, duration of parking brake application after RTO and MSL, and the need for guidance on content and format of disposition document.

Flight Guidance HWG

John Ackland indicated he submitted an interim report on § 25.1329 with no minority opinions. The working group has completed the rule language but believes that a significant amount of work is needed to complete the AC and ACJ, which will probably take a year to complete and that the tasking should be removed from the fast track process. Discussion items included purpose of signoff sheet used by the working group, Autoflight June 2000 Conference, impact of resources on working group meetings, extending working group schedule to March 2001 to complete AC and ACJ, the need for the working group to fully understand the economic impact of the proposed rule, and concern that interim report has not had a legal review. Ms. Carpenter indicated that she would setup a meeting with the FAA representatives and the working group chair to determine the impact of a legal review on the working group schedule. Pending outcome of the meeting, the FAA will modify its schedule with FAA input. The working group was directed to proceed with phases 2 and 4 of the fast track process.

Systems Design and Analysis HWG

Ms. Carpenter indicated that the FAA is working on issues identified in letter; response is being circulated. Rule package is on hold until letter is released.

Flight Test HWG

Bob Park distributed a status report (handout 12) and briefed members on the following reports:

Section	Discussion/Actions
25.253(a)(5)	Unanimous vote to forward to FAA
25.177(d)	--FAA created para (d) when paras (a) and (b) were removed from Amendment 25-72 --To reinstate paras (2) and (b), as previously recommended, requires removal of para (d) --Unanimous vote to forward to FAA
25.101(c)	--Discussion items included no difference in rule but large difference in existing policy and guidance; multidiscipline approach taken to resolve issues; harmonized means of compliance calls for conducting power line and lapse rate tests to validate propulsion model and airplane trajectory tests at one altitude; APR engine types also recovered; report modified by TAE members to include climbing drag test in advisory material --Unanimous vote to forward to FAA with modifications
25.177(c)	--Discussion items included explanation of “fin stall” and lack of data to support flight test risk as justification for changing test speeds. --TAE members requested additional statements regarding flight test safety record (changes made during meeting). --Unanimous vote to forward to FAA with modifications --Working group action to develop TOR defining follow on tasking for section

Loads and Dynamics HWG

Larry Hanson distributed a working activity report (handout 13). Boeing objected to any of the reports on fuel tank protection being forwarded to TAE for vote, citing that the proposal is a more rigid interpretation of current requirements and that the 5-foot-per-second wheels up landing goes beyond the intent of the rule. While other members did not object to the rule being forwarded for vote, Airbus, Transport Canada, Learjet, and DASA penned additional comments.

TAE members voted (4 abstained, 1 opposed, and 3 approved) to submit the package with the dissenting statements to the FAA for a decision on how to proceed. The documents will be returned to the working group during the phase 4 review.

Other updates addressed by Mr. Hanson included:

Section	Discussion/Action
25.865	--Draft rule, AC and fast track report will be completed at September working meeting --Issue of fireproof need to be resolved by FAA/JAA
25.415	--Chair requested additional time to resolve issues of dynamic analysis; believes resolution can be made by October 20 --TAE agreed to a slight delay in schedule --Ad hoc meeting may be scheduled in November to vote on forwarding the action to the FAA
25.671(c) and 25.1309	--HWG recommending that task on loads and jammed flight controls be tasked to it once the Flight Controls HWG completes its action; TAE members agreed --The FCHWG will hold one more meeting on jammed flight controls before turning over to LDHWG for insertion of loads dynamics

Mr. Hanson recommended tasking TOR for flight loads survey to the working group. No comments or objections were raised by TAE members, FAA to proceed with tasking.

Flight Controls HWG

Larry Schultz distributed an activity report (handout 14). He indicated that the working group had been addressing advisory material and had not yet addressed the rule. Discussion items included NTSB recommendations, retasking the working group, inconsistencies among manufacturers regarding deflection levels, consistency between § 25.671(c) and .1309, alleviation of jam, reliability of backup system, specific risk reviews and premature adoption of specific risk criteria, and the need to identify the authorities' position.

Electromagnetic Effects HWG

Mr. Bolt, reporting for Joe Cross, indicated that the executive committee of the working group planned to meet August 14 to review the advisory circular and user's guide addressing high intensity radar frequency. Dave Walen indicated that the FAA expects the working group to forward the package to the TAE for approval without a regulatory evaluation; the FAA will then prioritize resources for conducting the regulatory evaluation.

Mechanical Systems HWG

Pat Waters distributed a status report (handout 15) identified the subgroups with the working group and provided the fast track reports

Section	Discussion/Action
25.1439	--No real issues; comments resolved with clarification as to who is affected --JAR advisory material pulled into FAR --Unanimous vote to forward to FAA
25.729	--Unanimous approval to forward to FAA, recognizing that advisory material or means of compliance is needed as JAA has specific models in some cases different than that found in existing FAA practice. Although the rules would be harmonized, in practice they would be in disharmony --TAE requested working group to draft a TOR to address the disharmony that would be created by this action

TAE agreed to task the high altitude TOR's to MSHWG.

Electrical Systems HWG

Brian Overhuls distributed a working group activity report (handout 16), briefed on the working groups last meeting. He indicated that in retrospect (lesson's learned), the working group had found question 16 of the fast track report (cost) as vague and had difficulty in responding to it.

Section	Discussion/Action
25.1362	--Discussion items included pilot capability to turn off everything but essential systems --Unanimous vote to forward to FAA, as amended, to include statement in AC/ACJ—"Provisions to remove power from services not required for emergency procedures should be provided."
25X899, § 25.1353(c)(6), and AMJ 25.1309(b)	Reports were slightly revised following FAA remarks after TAE approval at the February and March meetings. --No new vote is necessary --Possible remarks may be expressed when the FAA draft NPRM is reviewed under phase 4

Wrapup

Action Items: Mr. Bolt reviewed the Action Items.

Adjournment: The meeting adjourned at 5 pm.

Craig Bolt
Assistant Chair

Approved with Revisions: September 14, 2000

ACTION ITEMS
(6/27-29/00)

1. TAE issues group to provide K Carpenter comments on TOR regarding complex supplemental type certificate modifications by July 14.
2. TAE to provide comments on Fuel Tank Inerting for Transport Airplanes to C. Bolt ASAP.
3. C. Bolt, D. Baker, K. Carpenter, and B. Courtney to review four issues raised by working groups and develop temporary guidance material as well as initiate activity for green book revisions.
4. JAA to comment on relationship between UK-, CAA-, A-NPA 25-310 on Human Centered Design Requirements and Human Factors HWG tasking. What is status at JAA? (HFWG not considering document at this time.
5. Minutes of March 2000 meeting to be circulated for electronic vote after corrections incorporated.
6. FAA (K Carpenter) to integrate TAE, HFHWG, and AVHWG comments on TOR's for § 25.1322 and AC/AMJ 25-11 and proceed with FAA tasking. TD for comments to Kris by July 30.
7. TAE to provide comments to K. Carpenter on TOR's for §§ 25.603 and 25.683 that relates to NPA 24D-20 by July 30.
8. B. Courtney/D. Baker to determine if ice detector operations rule will be signed off by AIR or AFS.
9. C. Bolt to send letter to FAA requesting that all references to part 23 be removed from IPHWG tasking.
10. C. Bolt to contact Dave Lotterer (RAA) about participation in IPHWG.
11. PPHIWG to lay out plan to get appendix I report for TAEIG vote by September meeting. C. Bolt to circulate plan to TAEIG.
12. TAE to provide comments on TOR relating to Fuel Venting System to K Carpenter by August 15.
13. K. Carpenter/B. Courtney to draft guidelines on content and formatting on "Comment Disposition" documents that go to TAE.
14. K. Carpenter to provide draft TOR on § 25.903(d) to C. Bolt by July 7. C. Bolt to transmit to TAE for comments back to FAA by August 15.
15. FTHWG to draft TOR for follow on work on § 25.177(c).
16. D. Baker to understand what if any changes being made to TAE submitted definitions of fire-proof/fire resistance.

17. FAA to proceed with tasking of Flight Loads Survey to LDHWB.
18. TAE to write letter to FCHWG and LDHWG explaining the work split on §25.6712(c)(2) tasking.
19. MSHWG to prepare draft TOR addressing § 25.729 by August 30.
20. ESHWG to prepare draft tasking for determining where group is proceeding.
21. FGHWG to meet with FAA legal to review AC Approach July 14.
22. PPHIWG to revise § 25.1193(e) report which will be voted on by e-mail.
23. FAA to proceed with tasking Pressurization/Temperature TOR to MSHWG (K. Carpenter)

Open Items from March 2000 Meeting

T. Sulocki and K Carpenter to determine how JAA and FAA will address lack of harmony in § 25.562 seats. (JAA rule does not include pilot or flight attendant seats, FAA rule does, but some exemptions have been granted for pilot seats regarding pitch and roll.)