

AGING TRANSPORT SYSTEMS RULEMAKING ADVISORY COMMITTEE

**OFFICE OF THE CHAIRMAN
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January 31, 2005

Mr. Nicholas A. Sabatini
Associate Administrator
Regulation and Certification AVR-1
Federal Aviation Administration
Room 1000 West
800 Independence Ave. SW
Washington, DC 20591

Dear Mr. Sabatini:

The Aging Transport Systems Rulemaking Advisory Committee (ATSRAC) is pleased to report that it has completed Specific Task 13, relating to criteria for upgrading and developing enhanced wiring inspection procedures for use by small transport airplanes (STA). This effort was accomplished within the timeline defined by the *Federal Register* notice of May 28, 2003.

The attached Task 13 Final Report, dated January 24, 2005, describes the numerous activities involved in this task, including a review of STA manufacturer wiring inspection procedures, and recommended compliance means to incorporate enhanced wiring inspection procedures.

This report has been endorsed by ATSRAC in its entirety. However, regarding the issue of whether the STA manufacturers should be mandated to perform a retroactive task analysis of their existing maintenance programs and to then supply enhanced Instructions for Continued Airworthiness, the Committee was split by a vote of 8-7 in favor of mandatory action. Because of the lack of clear consensus, I asked each viewpoint to document their arguments for submittal along with the HWG#13 Final Report. The Committee agreed to allow HWG#13 to leave their conclusions in the Final Report as a means of communicating their thoughts to the FAA. Please consider all of these positions when reviewing the recommendations contained in the report, as summarized on pages 28-29.

The submission of this report completes not only the work of HWG#13, but also of ATSRAC. I understand that the FAA is considering additional tasking for the Committee. The members have informed me that they are eager to continue their work in this important area of aviation safety and are looking forward to receiving new tasking.

Sincerely,

Kent V. Hollinger
ATSRAC Chairman

Enclosures

Cc: AFS-1, AIR-1, ARM-1, ANM-117

January 26, 2005

To: the FAA via Chuck Huber

From: ATSRAC members Wayne Maxey, Kirk Thornburg, Ric Anderson, Vic Card, Patrick Glapa, Franz Frank, Doug Hill and Christine Negroni

For the past eight months, Harmonization Working Group #13 of the ATSRAC has been reviewing the aircraft wiring maintenance, maintenance training and repair practices on small transport category aircraft (STA). The working group explains that the significant distinction between large transport category aircraft (LTA) and STAs in terms of maintenance is that STA operators do not develop their individual maintenance programs, depending instead on their voluntary compliance with manufacturers' instructions for continued airworthiness (ICA).

While the ATSRAC recommended that the FAA require manufacturers of large transport airplanes to perform an enhanced zonal analysis procedure (EZAP) on the electrical wiring interconnect system (EWIS) and to require operators of LTAs to incorporate the EZAP maintenance actions into their maintenance schedules, HWG#13 concludes that for STAs such regulation is unnecessary as the ICAs already cover a majority of the EWIS issues. Without arguing with the group's assessment, we do disagree with its conclusion.

HWG#13 reviewed the maintenance guidance for 10 small transport aircraft, looking at the ICAs, Aircraft Maintenance Manuals (AMM), Standard Practice Manuals (SPM) and an advisory circular 43.13-1B. Taken together, HWG#13 finds these are sufficient for meeting enhanced EWIS standards and that failure to heed existing maintenance or inspection guidance is the problem.

At the same time, HWG#13 concedes that a "certain level of complacency exists in the aircraft maintenance industry with respect to EWIS." If guidance for detecting EWIS discrepancies exists but is not followed, mandatory compliance would seem to address that.

Additionally, there is some reason to believe that manufacturer attempts to be proactive are handicapped in the absence of defined rules. Boeing's Don Andersen told the ATSRAC of a recent experience in which Boeing attempted to make changes to a recommended maintenance plan but was thwarted because those changes were determined by the maintenance review board to be unnecessary and onerous to operators. The changes were delayed pending the release of an appropriate rule. Andersen makes the point that LTA manufacturers may be willing to conduct voluntary EZAPs but for the commercial operators an FAA rule seems to be required to adopt enhanced maintenance tasks.

Commercial operators of small transports may indeed be willing to adopt changes to a standard maintenance plan. If so, it can only assist in this effort if the STA manufacturers are required to update maintenance plans within a certain schedule and using an acceptable assessment process.

Increased Awareness

The Aircraft Electronics Association (AEA) and the National Business Aviation Association (NBAA) have been making presentations on new best practices to the STA maintenance industry. These presentations have been successful in that "they were followed by a noticeable drop in the number of EWIS related discrepancies" according to HWG#13 group chairman Jon Haag. Haag told the committee that the participations at the presentations "see the value gained". But attendance at these presentations is entirely voluntary.

All five of the STA OEMs were represented on HWG#13, leading Haag to tell ATSRAC, "The OEMs, the five in this thing realize they have a new concept. They realize they don't meet the full intent of EZAP but they know they have to get updated. In the five years between regulation and effectiveness, they're going to get this done."

Regulatory Costs

In light of the financial and moral risks associated with failing to apply EZAP, it is logical to expect that STAs and the manufacturers' ICAs will incorporate enhanced all EWIS standards voluntarily. If, as HWG13 claims, some STA manufacturers have accomplished a majority of the enhancements already, then showing compliance to any future rule should be relatively effortless. The argument that proving compliance to the FAA will be a financial burden does not seem logical and HWG#13 members did not explain why they believed the regulations would be a financial burden. In any event the cost benefit analysis would be the FAA's responsibility.

Ethical Responsibilities

The group also claims that STAs do not need the FAA to regulate compliance because a competitive business environment and the responsibility of carrying, in many cases, the top executives of their own companies, are incentive enough. This distinction is not convincing. Commercial operators feel no less the moral and financial responsibility of the safe transport of their passengers.

Some argument was made that there is a relevant difference between private and public air transport in terms of the FAA's regulatory role. But we can see no reason to assume that the FAA or the NTSB believe that the level of safety is acceptably less for STAs than LTAs. It was, in fact, the 1999 crash of a private jet carrying golfer Payne Stewart that resulted in ATSRAC's expanded task to review STAs.

Summary

Finally, while the majority of air carriers, large and small will do their best to meet the highest standards for air safety, regulation is rarely intended to address the responsible behavior of the majority. In aviation the stakes are too high and the industry under too much pressure to assume that these issues, as important as they are, will be fully incorporated by all STAs manufacturers and operators without prodding by the FAA.

ATSRAC Agenda Item 5:
Review and Approve HWG-13 Report

On January 12, 2005, the HWG-13 chairman presented the final draft report to the ATSRAC for approval and acceptance. At the conclusion of the presentation and discussion, the ATSRAC chairman raised a question regarding bullet four in report section “HWG-13 Recommendations to ATSRAC”. The specific recommendation listed under bullet four states “STA OEMs, when ICAs (are) inadequate, (shall) enhance the ICAs with EWIS information as needed.” The HWG recommended that voluntary OEM action would accomplish this recommendation.

ATSRAC members discussed whether this specific HWG-13 recommendation should be voluntary or mandatory. At the conclusion of discussion, the ATSRAC chairman called for a vote. The vote was eight members in favor of making retroactive action mandatory, seven members were against making retroactive action mandatory, and one member abstained. All other aspects of the report were accepted as proposed, or modified as agreed. However, given the degree of voting split in respect to the HWG recommendation bullet four, the ATSRAC chair said a note will be placed in the final report to recognize the outcome of the vote. In addition, the ATSRAC chair asked member Christine Negroni to compile a paper listing member reasons for voting “Mandatory” and member Bill Schultz to compile a paper listing member reasons for voting “Not Mandatory”. These papers will be included with the cover letter that transmits the ATSRAC report to Nick Sabatini in FAA.

Acronyms:

ATSRAC	Aging Transport Systems Rulemaking Advisory Committee
EWIS	Electrical Wiring Interconnect Systems
EZAP	Enhanced Zonal Analysis Procedures
FAA	Federal Aviation Administration
HWG	Harmonization Working Group
ICA	Instructions for Continued Airworthiness
OEMs	Original Equipment Manufacturers
STA	Small Transport Airplane

on HWG-13 Recommendation Bullet Four:

“STA OEMs, when ICAs (are) inadequate, (shall) enhance the ICAs with EWIS information as needed.”

ATSRAC voted on October 21, 2004 to accept the proposed HWG-13 report with minor revisions. Subsequent distribution of the final draft report for ATSRAC member review and comment prior to the January 12, 2005 meeting did not produce any comments recommending mandatory action.

No facts were presented during discussions on January 12, 2005 to support making this matter mandatory. HWG-10 found no unsafe conditions requiring mandatory action and HWG-13 analysis of HWG-10 findings and evaluations of manufacturer ICA confirmed this fact. Also, Chuck Huber in his December 20, 2004 message to the HWG-13 chairman states “I did not expect that HWG-13 would recommend rulemaking and there is probably a good case not to pursue rulemaking at this time.” This statement suggests there is probably insufficient basis to require mandatory action.

HWG-13 presented data showing that a large variety of aircraft, aircraft operators and their maintenance systems would be affected if rulemaking were imposed to require incorporation of EZAP-like tasks in ICA for STA on out-of-production 'legacy' aircraft, thus posing significant costs to address the risks of undetected anomalous EWIS conditions; yet the exposure of the traveling public to these risks is very small. HWG-13 report shows that all STA manufacturers had ICA containing specific inspection/maintenance tasks to address the majority of EWIS issues. Most of the EWIS related issues were already addressed voluntarily by manufacturers, thus, significantly reducing the risks without the need for rulemaking. HWG-13 presented data showing that rulemaking would not be very effective in addressing the risks, since deficiencies were commonly not detected even when a preponderance of current ICA requirements exist. This indicates that training has a greater potential than rulemaking to decrease risks at this time. The potential risk reduction benefits from rulemaking would be very small, those risks will naturally disappear due to attrition of older systems and with manufacturer voluntary enhancement of ICA, cost of rulemaking would be unreasonably burdensome to operators, and resources could be better focused on addressing shortcomings in EWIS inspection training.

Owner/Operators of the approximately 9100 U. S. registered STA would not have the expertise to perform the required analysis. Most Owner/Operators of STA have very small flight departments and many have no on-staff maintenance personnel. The OEMs could not be expected to perform the analysis because once the aircraft has left manufacturing (green), the Owner/Operator incorporates many options for final outfitting of these aircraft. Therefore, OEMs do not have information on the modified configurations.

During the January 12, 2005 meeting, STA OEMs recommended to ATSRAC that retroactive task analysis be voluntary and that OEMs would respond favorably if FAA were to send formal letters requesting voluntary action (reference the January 6, 2005 recommendation in Vic Card-JAA/EASA Comments to HWG 13 Report, re Page 28: Recommendations to ATSRAC, item (4)).

Lastly, following discussion after the vote on the reasons for each member's position, both Airbus and ATA indicated they would prefer a voluntary means of compliance if such an alternative were available to them.