Federal Aviation Administration – Regulations and Policies
Aviation Rulemaking Advisory Committee

Aircraft Certification Procedures Issue Area

Task 2 – ELT Installations

Task Assignment

Aviation Rulemaking Advisory Committee; Emergency Locator Transmitter Working Group

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of establishment of the Emergency Locator Transmitter Working Group.

SUMMARY: Notice is given of the establishment of the Emergency Locator Transmitter Working Group of the Aviation Rulemaking Advisory Committee (ARAC). This notice informs the public of the activities of the ARAC on aircraft certification procedures issues.

FOR FURTHER INFORMATION CONTACT: Mr. William J. (Joe) Sullivan, Assistant Executive Director, Aviation Rulemaking Advisory Committee, Aircraft Certification Service (AIR-3), 800 Independence Avenue, SW., Washington, DC 20591, Telephone: (202) 267-9554; FAX: (202) 267-5364.

SUPPLEMENTARY INFORMATION: The Federal Aviation Administration (FAA) has established the Aviation Rulemaking Advisory Committee (ARAC) (56 FR 2190, January 22, 1991; and 58 FR 9230; February 19, 1993). One interest area of the ARAC is aircraft certification procedures (57 FR 39267; August 28, 1992). These issues involve procedures for aircraft certification found in parts 21, 39, and 183 of the Federal Aviation Regulations (FAR), which are the responsibility of the FAA Director of Aircraft Certification. By this notice, these issues are expanded to include advice on requirements for automatic emergency locator transmitters (ELT) found in FAR part 91, and for survival ELT found in FAR parts 25, 29, 121, 125, and 135.

ELT approved under Technical Standard Order (TSO) C91 during the 1970s and 1980s experienced generally unsatisfactory performance. To deal with the problem, the FAA issued Notice 90-11 (55 FR 12316, April 2, 1990). This notice contained four basic proposals: (1) ELT approved under recently adopted and improved TSO-C91a, or a later issued TSO for ELT, would be required for all newly-manufactured airplanes and for the replacement of existing ELT which became unusable or unserviceable; (2) Newly issued TSO-C126 for 406 MHz ELT (adopted in December 1992) would also constitute compliance with the existing and proposed rules requiring an ELT; (3) Improved standards would be established for survival ELT (although most of the unsatisfactory field experience had been with automatic ELT); and (4) The manufacture of ELT under TSO-C91 would be terminated simultaneously with issuance of the final rule based on Notice 90-11.

In addition to the proposals outlined above, the FAA solicited comments on the need for a fleet-wide ELT replacement program. The FAA is developing a document disposing of the rulemaking proposals in Notice No. 90-11. However, the FAA has chosen to ask the ARAC to consider the issues raised in the comments on that notice dealing with fleet-wide ELT replacement program. This will be accomplished by the Emergency Locator Transmitter (ELT) Working Group whose recommendations will be considered and disposed of by the ARAC Aircraft Certification Procedures Interest Group.

Specifically the ELT Working Group's tasks are the following:

Task 1: The ELT Working Group is charged with reviewing the comments received on FAA Notice of Proposed Rulemaking 90-11 dealing with a fleet-wide ELT replacement program. The review should address at least the following issues: (1) Whether automatic ELT should be installed (retrofit) on all transport and commuter category airplanes; (2) Whether survival ELT should be installed (retrofit) on all aircraft operating over water or in remote areas; (3) Whether all ELT now installed on airplanes should be replaced (retrofit); and (4) Whether ELT to be installed on newly manufactured airplanes or as replacements, or under items (1)-(3), above, should be either the improved 121.5/243 megahertz (TSO-C91a) or the 406 megahertz (TSO-C126) variety, or only the letter. After completing that review, present a report of findings and recommendations to the ARAC for consideration.

Task 2: Based on the results of task 1 and the guidance received from the ARAC, develop recommendations for rulemaking on the subject of ELT installations and the variety or varieties to be used. If rulemaking is not recommended in whole or in part, develop a report recommending disposition of the comments in Notice 90-11, including the issues identified above, and recommending rulemaking not be pursued in whole or in part. In either event, present the working group's final work product to the ARAC for review and final disposition.

Reports

A. Recommend time line(s) for completion of each task, including rationale, for consideration at the ARAC meeting to consider aircraft certification procedures issues held following publication of this notice.

B. Give a detailed presentation on conclusions and recommendations in the report for Task 1 to the ARAC, and receive ARAC approval, before proceeding with the work stated in Item C, below.

C. Develop a Notice of Proposed Rulemaking (NPRM) proposing the new standards for emergency locator transmitters, supporting economic and other required analysis, advisory and guidance material, and any other collateral documents the Working Group determines to be needed. Alternatively, develop a report that recommends disposition of the comments on Notice 90-11, including the specific issues identified, and recommends rulemaking not be pursued. Present these recommendations to the ARAC for further consideration and disposition.

D. Give a status report on the tasks at each meeting of the ARAC held to consider aircraft certification procedures issues.

The ELT Working Group will be comprised of experts from those organizations having an interest in the task assigned to it. A Working Group member need not be a representative of one of the member organizations of the ARAC. An individual who has expertise in the subject matter and wishes to become a member of the Working Group should write the person listed under "FOR FURTHER INFORMATION CONTACT" expressing that desire, describing his or her interest in the task, and the expertise he or she would bring to the Working Group. The request will be reviewed with the Chairs of the Issue Group and the ELT Working Group; 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 ARAC is necessary in the public interest in connection with the performance of duties imposed on the FAA by law. Meetings of the ARAC will be open to the public, except as authorized by section 10(d) of the Federal Advisory Committee Act. Meetings of the ELT 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 March 19, 1993.

William J. Sullivan,

Assistant Executive Director for Aircraft Certification Procedures Issues, Aviation Rulemaking Advisory Committee.

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GAMA

General Aviation Manufacturers Association
1400 K Street NW, Suite 801
Washington, DC 20005-2485
(202) 393-1500 • Fax (202) 842-4063

January 18, 1996

Mr. Anthony Broderick, AVR-1
Associate Administrator for
Regulations and Certification
Federal Aviation Administration
800 Independence Avenue SW
Washington, DC 20591

Subject: Report, ARAC Emergency Locator Transmitter (ELT) Working Group

Dear Mr. Broderick:

The ELT Working Group has completed its deliberations on upgrading the current rules on the installation and maintenance of Emergency Locator Transmitters (ELTs). The working group has accomplished much in clearing up issues on the current TSO C91 and C91a (121.5 MHZ) ELT, and the group reached consensus on the following:

1. The FAA should not require the installation of automatic ELTs in scheduled domestic Part 121 and Part 135 operations.

2. The FAA should not require the replacement of 121.5 MHZ survival type ELTs (re: FAR 121.339) with 406 MHZ ELTs for extended overwater operations.

3. The working group accepted the recently approved standard established by the RTCA for Lithium Batteries.

4. The working group agreed that the FAA should immediately issue NPRM 90-11 as a final rule. This NPRM, and the final rule issued in June 1994, did not address the mandatory replacement of TSO C91 (121.5 MHZ) ELTs; but, it did terminate their production and require that all replacement ELTs conform to TSO C91a or TSO C126. It also mandated specific maintenance and inspection requirements.

Although the working group is in full agreement on the need for a mandatory retrofit of ELTs, members of the working group have not reached a consensus on the type of ELT that should replace the old units. The general aviation community, including AOPA, CAP, EAA, AEA, HAI,

and NASAO, believes that the mandatory replacement of TSO C91 and C91a (121.5 MHZ) ELTs by C126 (406 MHZ) ELTs is cost prohibitive. Federal agencies represented in the Interagency Committee on Search and Rescue (ICSAR), plus the NTSB, Transport Canada, ALPA, ATA, NATA, and RAA, feel strongly that 406 MHZ ELTs provide positive User-ID and more accurate position location, resulting in far better service, and that only a mandated retrofit will drive down prices.

The committee, in its deliberations and investigation into the state of the art of the 406 MHZ ELT, has reached full agreement that the technology is mature. However, there is only limited manufacturing capability to meet any foreseeable demand.

Concerns about lithium battery technology were explored in great detail. The group reached the consensus that the lithium batteries needed by the 406 MHZ ELT must meet aeronautical safety requirements of established standards (RTCA/DO-227) developed by an international group of experts.

The working group reviewed a detailed study of current Search and Rescue (SAR) operations involving 121.5 MHZ ELTs, based upon NTSB data. The study indicated that up to six hours could be reduced from the SAR response time line by using 406 MHZ ELTs vice 121.5 MHZ ELTs. The working group accepted the results of the study and agreed that there was no doubt about the greater efficiency of the 406 MHZ ELT.

The issue that could not be agreed on by all parties was the mandatory replacement of older 121.5 MHZ ELTs by 406 MHZ ELTs. Those opposed to mandatory replacement support 406 MHZ ELTs for replacements on a voluntary basis. As an example, the CAP -- which has over 500 member aircraft -- has scheduled the replacement of its 121.5 MHZ ELTs with 406 MHZ ELTs. The ICSAR group and others felt strongly that because of the many limitations of the 121.5 MHZ system, e.g., high false alarm rate (exceeding 99%) and the poor activation performance in actual accidents (less than 12%), the 406 MHZ ELTs should be mandated in a reasonable time frame.

In recognition of the problems faced by the working group -- and to ensure that all avenues of possible agreement had been explored -- the FAA contracted with two excellent facilitators to aid in reaching consensus in the working group. In addition, an FAA contractor drafted several NPRMs that reflected the majority (406 MHZ) and minority positions (121.5 MHZ), and the FAA conducted a cost/benefit analysis of those proposals.

Despite all these efforts, the working group could not agree to any schedule for the mandatory replacement of the 121.5 MHZ ELT with the 406 MHZ ELT. Therefore, the ARAC Certification Issues Group recommends that the FAA review the attached material developed by the working group, including the draft NPRMs, economic evaluations, and reports of technical studies

conducted by members of the working group. Following that review, the issue group hopes that the FAA will explore further rulemaking based upon the material developed by the working group.

Sincerely,

James E. Dougherty, Chairman
ARAC Certification Issues

Acknowledgement Letter

U.S. Department
of Transportation

**Federal Aviation
Administration**

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

FEB 13 1996

Mr. William H. Schultz
Aviation Rulemaking Advisory Committee
General Aviation Manufacturers Association
1400 K Street NW, Suite 801
Washington, DC 20005-2485

Dear Mr. Schultz:

We have received the letter dated January 18 from Mr. James E. Dougherty, retired Assistant Chairman of the Aviation Rulemaking Advisory Committee (ARAC) on Aircraft Certification Procedures, in which he stated that the Emergency Locator Transmitter (ELT) Working Group has completed its deliberations on whether or not to upgrade the current rules regarding the installation and maintenance of ELT's. Although no formal document or report was developed, he did submit material that the working group developed, and recommended that the Federal Aviation Administration (FAA) review that material and explore further rulemaking.

The FAA has reviewed the material submitted and has determined that nothing further needs to be done by the ARAC on this issue. Therefore, we are removing the task from your ARAC agenda and consider the matter closed. We would like to thank Mr. Dougherty, you, and the members of the ELT Working Group for your efforts in working on this task. We recognize the complexity of the issues you studied and the need to address them, and we will consider the material the Working Group has submitted in any further action we take.

I would like to thank the aviation community, and particularly the ELT Working Group, for its commitment to ARAC and for its interest and effort in reviewing this matter.

Sincerely,

Anthony J. Broderick
Associate Administrator for
Regulation and Certification

cc: Mr. James E. Dougherty

Recommendation

GAMA

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Associate Administrator for
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Sincerely,

James E. Dougherty, Chairman
ARAC Certification Issues

FAA Action – Not Available