



# National Transportation Safety Board

Washington, D.C. 20594

Office of the Chairman

**FEB 27 2013**

Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, DC 20554

Attention: WT Docket No. 01-289; FCC 13-2

Dear Sir or Madam:

The National Transportation Safety Board (NTSB) has reviewed the Federal Communications Commission's (FCC) third further notice of proposed rulemaking (FNPRM), titled "Review of Part 87 of the Commission's Rules Concerning the Aviation Radio Service,"<sup>1</sup> which was published at 78 *Federal Register* (FR) 6276 on January 30, 2013. The notice seeks comment on the appropriate treatment of 121.5-MHz emergency locator transmitters (ELTs) under 47 *Code of Federal Regulations* Part 87. In its *Third Report and Order*,<sup>2</sup> the FCC amended section 87.195 of its rules to prohibit the certification, manufacture, importation, sale, or use of 121.5-MHz ELTs. Following its release of the *Third Report and Order*, the FCC received letters from both the Aircraft Owners and Pilots Association (AOPA) and the Federal Aviation Administration (FAA) asking that the FCC not implement the modification to section 87.195. The FAA stated that 121.5-MHz ELTs can continue to provide a beneficial means of locating missing aircraft even without satellite monitoring because the frequency is still monitored by the search and rescue (SAR) community, including the Civil Air Patrol. The FAA also expressed concerns about the costs and availability of replacements for 121.5-MHz ELTs.

Following its receipt of these letters, the FCC determined that it would be in the public interest to stay its amendment to section 87.195. The *Stay Order*<sup>3</sup> stated that no additional action would be taken regarding 121.5-MHz ELTs until further notice and provided an additional opportunity for public comment. This third FNPRM requests such comment.

The FNPRM states that the FCC continues to believe that a phase-out of 121.5-MHz ELTs is in the public interest. It adds that nothing in the record disputes the conclusions in the *Third Report and Order* that 406-MHz ELTs are superior to 121.5-MHz ELTs or that a transition to 406-MHz ELTs would promote aviation safety. The FCC seeks additional comments to help determine the timing and implementation of such a transition. Specifically, the FCC seeks comments in six areas: (1) the need to certify new models of 121.5-MHz ELTs; (2) a proposed

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<sup>1</sup> The document is printed in the *Federal Register* as proposed rules, "Aviation Communications."

<sup>2</sup> The *Third Report and Order* was published at 76 FR 17347 on March 29, 2011.

<sup>3</sup> The *Stay Order* was published at 76 FR 17353 on March 29, 2011, the same day as the summary of the *Third Report and Order*.

1-year phase-out period for the manufacture, importation, and sale of existing 121.5-MHz ELTs; (3) the adoption of a specific date to prohibit the continued use of 121.5-MHz ELTs currently in service; (4) cost estimates and inventory issues associated with a mandatory transition to 406-MHz ELTs; (5) the residual safety benefits of 121.5-MHz ELTs; and (6) the potential impact of the deployment of Automatic Dependent Surveillance–Broadcast (ADS-B) on the need for 406-MHz ELTs.

*Need to Certify New Models of 121.5-MHz ELTs*

As noted in the FNPRM, effective December 1, 2012, the FAA cancelled Technical Standard Order (TSO) TSO-C91a, “Emergency Locator Transmitter (ELT) Equipment,”<sup>4</sup> which no longer allows new TSO-C91a (121.5 MHz) design or production approvals to be issued. Thus, the NTSB agrees with the FCC that lifting the stay on the prohibition for further certification of 121.5-MHz ELTs is appropriate.

*Proposed 1-Year Phase-Out Period for the Manufacture, Importation, and Sale of Existing 121.5-MHz ELTs*

The NTSB agrees with the FCC that it is necessary to establish a specific date after which 121.5-MHz ELTs will no longer be permitted to be manufactured, imported, or sold. On February 8, 2000, the NTSB issued Safety Recommendation A-99-63, asking the FAA to “require that all Federal Aviation Regulation-mandated automatic emergency locator transmitters meet the requirements of Technical Standard Order C126 or equivalent alternative technology within 3 years.”<sup>5</sup> On September 4, 2007, the NTSB issued Safety Recommendation A-07-51, which asked the FAA to seek specific authority from Congress to require the installation of 406-MHz ELTs in all applicable aircraft “at the earliest possible opportunity.” The recommendation also asked that the FAA “strongly consider establishing a compliance date for upgrading to 406-MHz ELTs on or before the date that COSPAS-SARSAT will cease satellite processing of 121.5-MHz signals [February 1, 2009].”<sup>6</sup>

Given the amount of time that has passed since its initial recommendation in 2000, the NTSB is pleased that the FCC is proposing a phase-out period after which 121.5-MHz ELTs will no longer be able to be manufactured, imported, or sold. The NTSB believes that the proposed 1-year phase-out period provides adequate time to inform the general aviation (GA) community about the decision and to allow manufacturers to increase production of 406-MHz ELTs in order to meet the expected increasing demand.

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<sup>4</sup> On May 15, 2012, the FAA published a notice of cancellation of TSO-C91a, “Emergency Locator Transmitter (ELT) Equipment,” at 77 FR 28668, canceling the FAA TSO that sets forth minimum standards for 121.5-MHz ELTs effective December 1, 2012.

<sup>5</sup> The FAA replied that due to congressional action, it was not possible to specifically mandate ELTs operating on 406 MHz, and the NTSB classified the recommendation “Closed—Reconsidered” on June 13, 2001.

<sup>6</sup> On January 10, 2011, the NTSB classified Safety Recommendation A-07-51 “Open—Unacceptable Response.”

Regarding additional requirements for labeling or point-of-sale disclosure, the NTSB does not believe that this action is necessary. During the NTSB's July 2012 forum on GA SAR (at which the FCC was a panelist), AOPA presented a survey of its membership that indicated that 96 percent of its members were aware of the February 1, 2009, COSPAS-SARSAT satellite processing termination for 121.5 MHz. Therefore, lack of awareness does not appear to be a factor responsible for GA pilots' slow rate of migration to 406-MHz ELTs.

*Adoption of a Specific Date to Prohibit the Continued Use of 121.5-MHz ELTs Currently in Service*

As previously noted, the NTSB believes that 406-MHz ELTs provide a tremendous improvement for GA pilots who find themselves in need of SAR. However, 406-MHz ELTs also benefit the searchers by reducing both false alarms and search times, helping to mitigate risk to SAR pilots and ground personnel who often work in less-than-ideal weather conditions and terrain.

The NTSB strongly believes that the FCC should establish a specific date to prohibit the continued use of 121.5-MHz ELTs in service. The NTSB suggests that this prohibition should begin immediately upon the lifting of the stay for newly manufactured and/or certified aircraft and at the end of the proposed 1-year phase-out period for the manufacture, import, and sale of 121.5-MHz ELTs for in-service aircraft. After that time, installed 121.5-MHz ELTs that cannot pass the FAA-required annual inspection should be required to be upgraded to a 406-MHz ELT. The NTSB believes that an additional 2-year period could then be provided to aircraft owners to comply with a universal mandate, allowing sufficient time for manufacturers to increase production and maintenance facilities to perform the required work. This timetable would allow 3 full years after the lifting of the stay before all affected GA aircraft would be required to have upgraded to a 406-MHz ELT and is in line with the NTSB's original proposed transition period in its 2000 recommendation to the FAA.

*Cost Estimates and Inventory Issues Associated with a Mandatory Transition to 406-MHz ELTs*

In response to Safety Recommendation A-07-51, the FAA stated that a cost-benefit study was conducted and found that the cost to install 406-MHz ELTs on every affected GA aircraft approached \$500 million. However, when asked to provide an official copy of the study and the assumptions on which it was based, the FAA could not (and still cannot) do so. Thus, the NTSB believes that the FCC should not rely solely on this figure but look for other more supportable estimates when determining the cost of a 406-MHz mandate to GA aircraft owners. Additionally, the NTSB believes that any cost-benefit study on the issue must include the increased cost for SAR agencies to search for missing aircraft not equipped with 406-MHz ELTs. While it can be difficult to assess the complete cost of any search due to the multitude of agencies and both paid and volunteer searchers involved, some estimates have been made. For example, according to the US Air Force Rescue Coordination Center's (AFRCC) 2004 *Annual Report*, there were

approximately 2,528 aircraft/121.5-MHz ELT missions that year.<sup>7</sup> In those missions, 1,761 SAR aircraft flew for approximately 5,458 flight hours. AFRCC estimated that the total expenditure for these searches was approximately \$1.3 million. This estimate did not include costs incurred by organizations other than the US Air Force and Civil Air Patrol, such as state police, emergency management officials, and local emergency responders.<sup>8</sup>

Regarding inventory, the NTSB believes beacon manufacturers can provide the most direct information regarding their ability to produce an adequate supply of 406-MHz ELTs. NTSB staff had informal discussions with several manufacturer representatives at the NTSB's GA SAR forum who indicated that sufficient supply after a mandate would not be an issue. Additionally, AOPA's panelist at the forum indicated that she also did not believe capacity to manufacture an adequate supply of beacons would be a problem.

#### *Residual Safety Benefits of 121.5-MHz ELTs*

The NTSB does not believe that TSO-C91 and -C91a ELTs operating on 121.5 MHz have any residual value to the GA community. One argument offered for the continued use of 121.5-MHz ELTs has been that commercial pilots frequently tune one radio to the emergency frequency and can report audible ELT signals to air traffic control. However, as stated by a US Air Force panelist during a presentation at the NTSB's July 2012 forum on GA SAR, "at 39,000 feet, that [search] radius can be 600 miles in radius. That can encompass three states. So once you get that initial report, then the rescue forces have to go out and request additional reports at lower altitude. They may or may not get those reports. Those reports take time." The NTSB believes that although many GA pilots understand that there are benefits from 406-MHz ELTs, some pilots may overestimate the current utility of 121.5-MHz ELTs to support search efforts.

The NTSB believes that the only usefulness of a 121.5-MHz emergency signal is in conjunction with a 406-MHz ELT or other device, in which the 121.5-MHz signal serves solely as a homing device for searchers who are drawn to a specific area by a 406-MHz alert. In this FNPRM, the FCC has specifically and appropriately kept the frequency itself available for just this purpose.

#### *Potential Impact of the Deployment of ADS-B on the Need for 406-MHz ELTs*

At the NTSB's July 2012 forum on GA SAR, the FAA presented information on ADS-B and its potential for assisting with SAR. The FAA panelist stated that ADS-B is limited as a "line of sight" system, meaning that an ADS-B-equipped aircraft must be in sight of a ground-based

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<sup>7</sup> US Air Force Rescue Coordination Center, *2004 Annual Report* (Langley Air Force Base, VA: US Air Force Rescue Coordination Center, 2004), <http://www.1af.acc.af.mil/shared/media/document/afd-071211-028.pdf>. (The NTSB notes that these figures predate the termination of 121.5-MHz ELT processing by COSPAS-SARSAT in 2009.)

<sup>8</sup> Costs for individual searches can vary significantly depending on the amount of time and resources involved. For example, the search for Steve Fossett in 2007 and 2008 reportedly cost the state of Nevada \$1.6 million, not including any federal and private money spent.

receiver in order to be “seen.” Therefore, it is undisputed that there will be numerous coverage gaps in a terrestrial ADS-B system, especially in remote and mountainous areas. That fact, combined with an estimated cost of \$5,000 to \$6,000 per aircraft<sup>9</sup> for equipment, causes the NTSB great concern that GA pilots will not universally adopt the technology. While ADS-B may provide additional information to SAR agencies, the NTSB believes that any system that will not work for all GA aircraft over the entire country should not be considered as a functional alternative to ELTs and the COSPAS-SARSAT system.<sup>10</sup>

The NTSB appreciates the opportunity to comment on this FNPRM.

Sincerely,

A handwritten signature in black ink, appearing to read 'DAH', with a long horizontal flourish extending to the right.

Deborah A.P. Hersman  
Chairman

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<sup>9</sup> This cost estimate was supplied at the forum by the FAA panelist and represented “ADS-B out” only. An installation of both “ADS-B out” (which broadcasts the aircraft’s position) and “ADS-B in” (which allows the pilot to receive information) was estimated at \$10,000.

<sup>10</sup> The NTSB notes that there was considerable testimony at the NTSB forum about satellite emergency notification devices as well as work being conducted to develop a second generation of COSPAS-SARSAT-approved beacons. The NTSB believes that these new devices have merit and that they should continue to be developed with the ultimate goal of providing automatic, accurate, timely crash detection and location information directly to SAR authorities.