



POSITION STATEMENT

NATIONAL AVIATION SAFETY PROGRAM

*Adopted by the IEEE-USA
Board of Directors, 15 June 2007*

IEEE-USA strongly endorses the U.S. aviation safety program and its focus on reducing the accident rate in aviation. Further, it encourages the program's full planned funding and implementation. Towards that end, IEEE-USA recommends the federal government:

- Continue to support research that develops on-board technologies to help planes monitor their own systems, including engines and airframes. The goal is to detect, diagnose and correct anomalies before they compromise safety.
- Support R&D to bring current graphic weather and weather forecasts economically to the flight deck of all classes of aircraft.
- Support focused research to specifically identify and develop new technologies that reduce the accident rate. The National Aeronautics and Space Administration (NASA) / Federal Aviation Administration (FAA) / Department of Defense (DoD) programs must coordinate closely with other related efforts in government agencies such as the National Transportation Safety Board (NTSB) and with industry, especially aircraft and avionics manufacturers. We especially encourage interagency use of laboratories and other such resources.
- Promote agency collaboration to collect statistically significant samples of flight data to develop the capability for data/information analysis. These results would guide ongoing safety enhancements.

To support these efforts, Congress must provide adequate funding, in constant dollars, to the principal executing agencies, National Aeronautics and Space Administration (NASA), Federal Aviation Administration (FAA) and the Department of Defense (DoD) – particularly for accident prevention, accident mitigation and aviation system monitoring and modeling.

This statement was developed by IEEE-USA's Committee on Transportation and Aerospace Policy, and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA is an organizational unit of The Institute of Electrical and Electronics Engineers, Inc., created in 1973 to advance the public good and promote the careers and public-policy interests of the more than 220,000 electrical, electronics, computer and software engineers who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of the IEEE or its other organizational units.

BACKGROUND

In response to the TWA 800 flight explosion and crash in July 1996, the White House established the Commission on Aviation Safety and Security, the Gore Commission, to develop recommendations for increased aviation safety and security. The Commission challenged the United States to establish a national goal to lower the fatal aircraft accident rate with a five-fold reduction by the year 2007; other national leaders have called for a 90% reduction by the year 2022. The imperative for action to reduce the accident rate still further is evident; the operational benefit is immense and highly compelling. Achievement of these goals requires leadership in safety issues that will guide policy and action. The attainment of a safe system is the highest priority in aviation; the trust attributed to the aviation safety system is undermined every time an accident occurs. Thus, it is widely recognized that steps, such as the U.S. aviation safety program, must be taken to reduce the accident rate.

Recently, the Commission on the Future of the United States Aerospace Industry has been established by Congress and the President to address the overall aerospace industry with attention to all of its facets, including safety and security.

The aviation industry worldwide in 2006 suffered fewer major accidents compared to 2005 but the fatality toll was not significantly reduced. A 5.2 percent increase in commercial jet departures combined with fewer accidents to produce an accident rate that was below 0.4 major accidents per million departures. Approach and landing accidents still account for more than 50 percent of major accidents.

The Government Role in Aviation Safety Research

The federal government has two roles: 1) to be responsible for aviation safety in U.S.-controlled airspace; and 2) to provide funding for conduct and sponsorship of research and development in many aviation disciplines.

Role 1 is realized through the FAA mandate to regulate and enforce aviation safety, among other items in its charter.

Role 2 is realized through research funded by numerous government agencies, including the FAA, the DoD and NASA, which have traditionally conducted research in aviation safety and capacity issues. Three areas have been defined as research priorities:

- 1) Accident Prevention - attacking the issue of airplane accidents from human, mechanical and engineering perspectives
- 2) Accident Mitigation - making accidents more survivable
- 3) Aviation System Monitoring and Modeling - looking at the aviation system as a whole with modern data-gathering techniques

References:

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