

Commercial Aviation Safety Team

Working Together For Aviation Safety

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Contact: Alison Duquette, FAA, 202-267-3883

Alexis Allen, AIA, 703-358-1075

More Information: www.cast-safety.org

Fact Sheet

Commercial Aviation Safety Team

The nation's impressive safety record is due in part to the aviation industry and federal government voluntarily investing in the right safety enhancements to reduce the fatality risk in commercial air travel in the United States. The work of the Commercial Aviation Safety Team (CAST), along with new aircraft, regulations and other activities, reduced the fatality risk for commercial aviation in the United States by 83 percent from 1998 to 2008.

Looking ahead

CAST has evolved to the point that the group is now moving beyond the "historic" approach of examining past accident data to a more proactive approach that will focus on risk prediction and mitigation strategies. The goal over the next decade is to transition to prognostic safety analysis. CAST aims to reduce the U.S. commercial fatality risk by 50 percent from 2010 to 2025.

The increasing number of flights requires greater emphasis on acquiring, sharing and analyzing aviation safety data. Using incident data, CAST is examining emerging and changing risks to identify prevention strategies.

Since there are few commercial aviation accidents and no common causes, more data points are needed. Voluntary programs such as the Aviation Safety Action Program (ASAP), Flight Quality Assurance (FOQA) program, and the Air Traffic Safety Action Program (ATSAP) give airlines and the government insight into millions of operations so that potential safety issues and trends are identified. The Aviation Safety Information Analysis and Sharing (ASIAS) program connects 46 safety databases across the industry and is integrated into the CAST process. The program is evolving but has matured to the point that the FAA can now look at data from air carriers representing 92 percent of U.S. commercial operations and identify emerging vulnerabilities and trends. Safety improvements are made not only through FAA regulations, but also through CAST.

Between now and fiscal year 2013, the FAA intends to increase the databases ASIAS can access; expand ASIAS to include maintenance/air traffic information; increase membership by adding regional air carriers; increase community stakeholders to include general aviation, helicopter operators and the military; and increase the automated search capabilities.

CAST is focused

CAST has developed an integrated, data driven strategy to reduce the commercial aviation fatality risk in the United States. It currently uses 76 safety enhancements to improve safety. A reduction in the worldwide accident rate is also a long-term goal of CAST.

CAST identifies precursors and contributing factors to ensure that resources address the most prevalent categories of accidents. CAST has reduced the risk in commercial aviation by focusing on the following areas:

- controlled flight into terrain
- approach and landing accidents
- loss of control
- runway incursions
- weather
- turbulence
- icing
- cargo-related accidents
- maintenance
- mid-air collisions, and
- uncontained engine failures.

How CAST works

CAST uses a disciplined, data driven, focused approach of:

- analysis of past accidents/incidents,
- identification of accident precursors,



- development of specific safety enhancements to address precursors and contributing factors,
- implementation of cost effective safety enhancements,
- tracking implementation for effectiveness, and
- using knowledge gained to continually improve the aviation system.

CAST charters working groups for in-depth analysis of the top accident categories in commercial aviation. Safety enhancements are then identified to reduce such accidents and prioritize and coordinate plans for implementing and, finally, monitoring actual effectiveness.

Senior-level safety officials from CAST organizations meet regularly. This group sets overall policy, and oversees the activities of the following working groups:

Joint Safety Analysis Teams (JSATs) perform data analyses.

JSATs perform in-depth analysis of a particular accident category. A JSAT examines the sequence of events leading up to each accident studied and then identifies ways to eliminate potential precursors and contributing factors. The intervention strategies are then evaluated for their potential effectiveness.

Joint Safety Implementation Teams (JSITs) develop safety enhancements.

JSITs determine the feasibility of the intervention strategies identified by the JSATs. Each JSIT then develops and recommends a detailed plan of action for industry and government to implement the recommended safety enhancements.

Joint Implementation Monitoring Data Analysis Team (JIMDAT) develops a master safety plan, measures effectiveness and identifies future areas of study.

The JIMDAT monitors the implementation of the safety enhancements, and suggests modifications and changes to CAST.

Global strategy

Although most participants are from the United States, CAST promotes new government/industry safety initiatives throughout the world.

Aviation is an international business. Accident rates and causes vary by region and do not lend themselves to "cookie-cutter" solutions. With that in mind, CAST coordinates with the International Civil Aviation Organization (ICAO), Flight Safety Foundation (FSF), International Air Transport Association (IATA), European Aviation Safety Authority (EASA), Transport Canada Civil Aviation (TCCA) and other organizations. CAST has established links to other safety initiatives, such as the European Commercial Aviation Safety Team (E-CAST), Regional Aviation Safety Group Pan American (RASG-PA), ICAO Coordinated Development of Operational Safety and Continuing Airworthiness Program (COSCAP) initiatives, and other regional safety programs. Many organizations have adopted CAST safety enhancements that are appropriate for their regions.

International Helicopter Safety Team

Using CAST as a model of success, government and industry leaders chartered the International Helicopter Safety Team (IHST) in January 2006 to reduce the worldwide civil helicopter accident rate by 80 percent by 2016. Members include helicopter operator associations, airframe manufacturers, engine manufacturers, and regulators such as the FAA, Transport Canada, ICAO, and EASA. Halfway through the IHST's 10-year mission, the worldwide helicopter accident rate has been reduced 30 percent compared to the 2001-05 baseline. This is a strong step in the right direction, but much more work remains.

CAST membership

CAST is co-chaired by Kenneth Hylander, Senior Vice President – Corporate Safety, Security and Compliance, Delta Air Lines and Peggy Gilligan, Associate Administrator for Aviation Safety, FAA.

Government CAST members

- European Aviation Safety Authority
- FAA
- National Aeronautics and Space Administration
- Transport Canada Civil Aviation
- U.S. Department of Defense

Employee Group CAST members

- Air Line Pilots Association
- Allied Pilots Association
- National Air Traffic Controllers Association

Industry CAST members

- Aerospace Industries Association
- Airbus
- Airports Council International
- Air Transport Association
- The Boeing Company
- Flight Safety Foundation
- General Electric (representing all engine manufacturers)
- National Air Carrier Association
- Regional Airline Association
- Various industry and government agencies also attend CAST as observers.

Awards

CAST received the prestigious 2008 Robert J. Collier Trophy and a 2006 Laurel Award from *Aviation Week & Space Technology* magazine.