



Federal Aviation Administration

Fact Sheet – Commercial Aviation Safety Team

For Immediate Release

April 12, 2016

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The nation's impressive commercial aviation safety record is due in part to the aviation industry and 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 and the group is moving beyond the "historic" approach of examining past accident data to a proactive approach that focuses on detecting risk and implementing mitigation strategies before accidents or serious incidents occur. The goal over the next decade is to transition to prognostic safety analysis. CAST aims to reduce the U.S. commercial fatality risk by another 50 percent from 2010 to 2025.

The increasing number of operations 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.

Because 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 Operational Quality Assurance (FOQA) program, and Air Traffic Safety Action Program (ATSAP) give air carriers and the government insight into millions of operations so potential systemic safety issues and trends are identified.

The Aviation Safety Information Analysis and Sharing (ASIAS) program connects a wide variety of safety data and information sources across industry and works closely with CAST to monitor known risks, evaluate the effectiveness of deployed mitigations, and detect emerging risks. ASIAS is evolving but has matured to the point that the FAA and industry can now leverage voluntarily provided safety data representing 99 percent of U.S. air carrier commercial operations. ASIAS works in partnership with CAST to analyze the data. Safety mitigations are developed by CAST and voluntarily implemented by its community. Over the years, CAST had adopted 96 safety enhancements with several based on information derived from non-accident data.

CAST Is Focused

CAST has developed an integrated, data-driven strategy to reduce the commercial aviation fatality risk in the United States. The CAST plan currently comprises 96 safety enhancements aimed at improving safety across a wide variety of operations.

CAST identifies precursors and contributing factors to ensure resources address the most prevalent categories of risk that pose the greatest threat to loss of life. The group has reduced the fatality risk in commercial aviation by focusing resources on the following risk areas:

- Runway excursions,
- Controlled flight into terrain,
- Approach and landing accidents,
- Loss of control,
- Runway incursions,
- Weather,
- Turbulence,
- Icing,
- Cargo-related accidents,
- Maintenance,
- Midair collisions, and
- Uncontained engine failures.

How CAST Works

CAST uses a disciplined, data-driven, focused approach to—

- Analyze safety data/information,
- Identify hazards and underlying contributing factors,
- Develop specific safety enhancements to address risk,
- Implement cost-effective safety enhancements,
- Track implementation and continuously monitor the effectiveness of the safety enhancements, and
- Use knowledge gained to continually improve the aviation system.

CAST charters joint government and industry working groups for analysis of the systemic safety issues in commercial aviation. The groups leverage data from ASIAs to understand the underlying contributing factors and develop mitigation strategies. CAST voluntarily adopts the most effective strategies as safety enhancements and develops plans for implementing and monitoring their 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)

JSATs perform in-depth analysis of particular safety issues. A JSAT examines the sequence of events leading up to each studied event 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)

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

Joint Implementation Measurement Data Analysis Team (JIMDAT)

The JIMDAT oversees the CAST master safety plan. It monitors the implementation and effectiveness of the safety enhancements, and recommends modifications and changes to CAST's safety portfolio. The JIMDAT, in conjunction with ASIAs, also identifies gaps and emerging risks as well as additional areas of study.

Global Strategy

Although most participants are from the United States, CAST encourages government and industry partnerships to improve safety throughout the regions of 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 Agency (EASA), and other organizations. CAST has established links to other safety initiatives, such as the European Commercial Aviation Safety Team (ECAST), ICAO Regional Aviation Safety Groups (Pan American (RASG-PA), Asia Pacific (APAC), and Middle East (MID)), ICAO Coordinated Development of Operational Safety and Continuing Airworthiness Program (COSCAP) initiatives, and other regional safety programs. CAST representatives share CAST SEs that offer mitigations to top fatality risk areas within the region. Representatives work with regional workgroups to adapt CAST solutions for implementation within the region. The CAST government?industry partnership model and its analytical methodologies are being adopted by safety teams around the world.

CAST Membership

CAST is co-chaired by Peggy Gilligan, Associate Administrator for Aviation Safety, FAA, and Paul Morell, Vice President, Safety, Security, and Environmental, American Airlines, Inc.

Government CAST Members

- 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, representing the Coalition of Airline Pilots Associations
- National Air Traffic Controllers Association

Industry CAST Members

- Aerospace Industries Association
- Airbus
- Airports Council International
- Airlines for America
- The Boeing Company
- Flight Safety Foundation
- General Electric (representing all engine manufacturers)
- National Air Carrier Association
- Regional Airline Association

Awards

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

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