Commercial Aviation Safety Team (CAST)

Overview

PA-RAST

March, 2016
In the U.S., our focus was set by the White House Commission on Aviation Safety, and The National Civil Aviation Review Commission (NCARC)

1.1 . . . Reduce Fatal Accident Rate . . .

• . . . Strategic Plan to Improve Safety . . .
• . . . Improve Safety Worldwide . . .
CAST brings key stakeholders to cooperatively develop & implement a prioritized safety agenda

**Commercial Aviation Safety Team (CAST)**

**Industry**
- AIA
- Airbus
- ALPA
- APA
- A4A
- IFALPA
- NACA
- Boeing
- GE*
- RAA
- FSF

**Government**
- DOD
- FAA
  - Aircraft Certification
  - Flight Standards
  - Accident Investigation
  - Air Traffic Operations
  - Airports
- NASA
- ICAO**
- EASA
- TCCA
- NATCA**
- NTSB**

IATA**
AAPA**
ATAC**
APFA**
ACI-NA**

* Representing P&W and RR
** Observer
Vision - Mission - Goals

Vision
• Key aviation stakeholders acting cooperatively to lead the world-wide aviation community to the highest levels of global commercial aviation safety by focusing on the right things.

Mission
• Enable a continuous improvement framework built on the proactive identification of current and future risks, developing mitigations as needed and monitoring the effectiveness of implemented actions.

Goal
• Reduce the U.S. commercial aviation fatality risk by at least 50% from 2010 to 2025

and

• Continue to work with our international partners to reduce fatality risk world-wide commercial aviation.
1987-2011 Part 121 Hull Loss and Fatal Accidents

Pre-decisional information subject to limitations of used under 14 CFR 193. For CAST use only – not for distribution
CAST Safety Strategy

Data Analysis
Agree on problems and interventions

Set Safety Priorities
Achieve consensus on priorities

Implement Safety Enhancements - U.S.
Influence Safety Enhancements - Worldwide

Integrate into existing work and distribute
CAST Organization

Joint Safety Analysis Teams (JSAT)
- Data analyses

Joint Safety Implementation Teams (JSIT)
- Safety enhancement development

Joint Safety Analysis and Implementation Teams (JSAIT)
- Consolidated data analyses and safety enhancement development team

Joint Implementation Measurement Data Analysis Team (JIMDAT)
- Master safety plan
- Enhancement effectiveness
- Future areas of study and emerging risks
Safety Plan Development

1. Accident JSAT's → Accident JSIT's → Safety Enhancements → CAST Plan
2. Master Contributing Factors → Incident Analysis Process → Emerging Risk
3. Emerging Risk → Safety Enhancements → Metrics
4. Changing Risk → Safety Enhancements → Metrics
5. Aviation System Changes → Identify Hazards → Identify Factors
6. FAST Hazards → Identify Hazards → Identify Factors
7. Demographic Changes → Identify Hazards → Identify Factors

Flowchart:
- Present In Master Factors: Yes → Develop Contributing Factors (new or emerging)
- Present In Master Factors: No → Metrics
- JIMDAT Process → Metrics
- CAST Plan Rev. → CAST Plan
<table>
<thead>
<tr>
<th>Risk Eliminated by Safety Enhancements</th>
<th>2007</th>
<th>2020</th>
<th>All JSIT Proposed Enhancements</th>
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</tbody>
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**Resource Cost Vs. Risk Reduction**

The chart illustrates the relationship between resource cost and risk reduction, showing how much risk is eliminated by safety enhancements at different cost levels. The APPROVED PLAN is marked with an arrow and indicates the total cost in $ (Millions) for each year and the risk reduction achieved.
Historical cost of accidents per flight cycle

74% Risk reduction

Cost of accident fatalities following implementation of the CAST plan @ 2020 levels

Savings ~ $71/Flight Cycle
Or
~ $852 Million Dollars/Year
CAST – Safety Enhancements

96 Safety Enhancements
68 Complete
28 Underway

Completed
Underway
Recent CAST Safety Enhancements Issued

**Airplane State Awareness**
- Previously completed JSIT
  - 19 new Safety Enhancements (SEs 192-211)

**RNAV-Departures and STARs**
- Recently completed JSAIT
  - 3 new Safety Enhancements (SEs 212-214)

**Runway Excursions**
- Recently Completed JSAIT
  - 8 new Safety Enhancements (SEs 215-222)

**Misconfiguration**
- Analysis underway, set to conclude in the next few months

Safety Enhancements available on Skybrary:
CAST Safety Enhancement Plan and details of all Safety Enhancements can be found at:

CAST Engagement Criteria

- **Safety Value**
  - CAST’s effort will provide an opportunity to improve safety within the region

- **Infrastructure**
  - The region has an established infrastructure to enable the implementation of safety improvements

- **Partnerships**
  - The region has established a government and industry partnership to influence change and establish their own safety goals
InfoShare

- InfoShare is a semiannual Industry-sponsored, FAA facilitated event for airline safety professionals, manufacturers, and the FAA to share safety issues, lessons learned and mitigation strategies, in a protected environment.

- Focused largely on operational safety issues, but airplane design is always an underlying issue.

- Next meeting will be held March 15-17

- InfoShare generates many issues to JIMDAT to perform risk assessment.
The success of information sharing relies on collaboration among voluntary safety programs.
BACKUP SLIDES
Study Prioritization
(Fleet Risk)

Guideline
Criteria C 1.1

Fatality Risk - (Severity)

Yrs to 1 or more expected accidents

Risk Level Appropriate for Monitoring
1 accident in 20 yrs

Risk Level Appropriate for Study

Fatality Accident Expectation @ Current Accident Rate

Runway excursion

Birdstrike

Risk Level – Rapid Response

1% 10% 100%

0 5 10 15 20 25 30