

Safety News

Data Fusion Directions

Timely warnings to global aviation leaders about low-frequency, hard-to-identify safety threats soon will be routine, say leaders of the U.S. Commercial Aviation Safety Team (CAST) and the U.S. Federal Aviation Administration (FAA) Aviation Safety Information Analysis and Sharing Program (ASIAS).

ASIAS plans to share high-level hazards and trends — and to exchange parameters, aggregate data and analytical protocols such as database-fusion techniques — while CAST develops and refines safety enhancements, said Margaret Gilligan, briefing journalists in mid-June as government co-chair of CAST and the ASIAS executive board, along with Don Gunther, industry co-chair of CAST and the ASIAS executive board; and Jay Pardee, director of the FAA Office of Aviation Safety Analytical Services.

De-identified data archived from 7.2 million flights captured by flight

operational quality assurance (FOQA) programs at 12 of 30 ASIAS-participating airlines now can be matched to 17,000 de-identified reports from 30 aviation safety action programs and some of 44 other databases (*ASW*, 5/08, p. 25, and 8/09, p. 32), they said. In one example, flight crew noncompliance with resolution advisories from traffic-alert and collision avoidance systems (TCAS) improved from 2.0 percent to 0.5 percent in 10 months at one airline.

ASIAS priorities include tools “to help target resources in the future if current solutions are not effective” and a robust “vulnerability-discovery capability” to detect unsafe changes during transition to the Next Generation Air Transportation System, Pardee said.

CAST uses ASIAS capabilities to revisit safety enhancements, such as those for pilot interaction with aircraft automation, mode confusion and energy-state awareness, Gunther added. ASIAS lately has tackled loss



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of separation during standard instrument departures with area navigation (RNAV) off-the-runway procedures on closely spaced parallel runways; runway excursions; high-energy rejected takeoffs; unstabilized approaches; and further study of non-safety-critical TCAS alerts, Pardee said.

— Wayne Rosenkrans

Charity Flights

Pilots who conduct charitable medical flights should be required to present proof of their currency before every flight, the U.S. National Transportation Safety Board (NTSB) says.

The NTSB told The Air Care Alliance — a league of humanitarian flying organizations whose volunteer pilots conduct public benefit flights for disaster relief, patient transport and other public service missions — that it should require voluntary pilot organizations to verify pilot currency. These organizations operated under U.S. Federal Aviation Regulations Part 91, “General Operating and Flight Rules,” and were not subject to oversight by the U.S. Federal Aviation Administration.

Other recommendations called on the alliance to require voluntary pilot organizations to tell their passengers that their charitable medical flights are “not conducted under the same standards that apply to a commercial flight” and to require them to implement written safety guidance to address “at a minimum, aeronautical decision making; proper preflight planning; pilot qualification, training and currency; and self-induced pressure.”

The NTSB cited four fatal accidents in 2007 and 2008 that involved charitable medical flights. In each case, the NTSB said that the probable cause of the accident involved either improper pilot decision making, a pilot’s spatial disorientation or a lack of instrument currency.

“The NTSB is concerned that these pilots did not provide the passengers with the basic level of safety that passengers in these circumstances have a right to expect,” the NTSB said.

U.S. Air Force



En Español

A Spanish translation of *AeroSafety World* is now available on the Flight Safety Foundation Web site, at <flightsafety.org>.



Translation of six issues of *ASW* is being sponsored by the Federation of Latin American Pilots (FLAP), which represents the region's members in the International Federation of Air Line Pilots' Associations (IFALPA).

"It is our hope that we can keep this process going beyond the initial six translations," said Carlos Arroyo Landero of FLAP.

Chinese translations of some issues of *ASW*, made possible through the Foundation's partnership with the General Administration of Civil Aviation of China (CAAC), also are available on the Web site.

'Loose Equipment'

The U.S. Federal Aviation Administration (FAA), citing a recent fire in a Mitsubishi MU-2B, has warned aircraft owners and operators of "potential hazards and airworthiness concerns" associated with loose equipment in the cockpit — especially on the glare shield above the instrument panel.



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In a special airworthiness information bulletin, the FAA said, "Loose equipment on the glare shield or in the cockpit can present a hazard, particularly for aircraft with a windshield heater system installed where electrical terminal strips may be exposed and subject to short circuit."

Loose equipment on the glare shield also can obscure the pilots' field of view, become a hazard in case of turbulence and might affect the accuracy of a magnetic compass, the FAA said.

After the recent MU-2 fire, investigators found that a hand-held global positioning system (GPS) receiver and antenna had been placed on the glare shield. A metal portion of the GPS antenna contacted a windshield heater terminal strip, causing a short circuit.

"The resulting current flow caused the loose equipment to burn, resulting in smoke in the cockpit," the FAA said. The crew conducted an emergency landing. The FAA information bulletin provided no further details about the event.

Engine Inspections

Citing four recent uncontained engine failures, the U.S. National Transportation Safety Board (NTSB) is calling for immediate blade borescope inspections of low-pressure turbine stage 3 disks on General Electric (GE) CF6-45/50 turbofan engines.

The inspections should be repeated at specific intervals until the disk is redesigned and the new version is installed, the NTSB said in a letter to Randy Babbitt, administrator of the U.S. Federal Aviation Administration.

Investigations of the engine failures have found that the disk "can fail unexpectedly when excited by high-pressure rotor unbalance vibration resulting from localized high-pressure turbine blade material loss," the NTSB said. "A turbine disk failure can release high-energy engine debris capable of damaging an airplane and endangering its passengers."

The NTSB said that, although the failure mode was identified in the 1970s, the first uncontained failure occurred in 2008 in a Saudi Arabian Airlines (Saudia) Boeing 747-300 after takeoff from Jeddah.

The other failures involved an Arrow Cargo McDonnell Douglas DC-10F about 30 minutes after takeoff from Manaus,

Brazil, on March 26, 2009; a Jett8 Cargo Boeing 747-200F climbing through 7,000 ft above ground level after takeoff from Changi, Singapore, on Dec. 17, 2009; and an ACT Cargo Airbus A300B4 accelerating for takeoff at Manama, Bahrain, on April 10, 2010.

No injuries were reported in any of the events. Investigations of all four events are continuing.

Wikimedia



Crash Kills Mining Officials

The entire board of Sundance Resources, an Australian mining company, has been killed in the crash of a chartered CASA 212 in the Republic of Congo.

The company said that all 11 people in the airplane, including six Sundance officials, were killed in the June 19 crash in a mountainous area near the border with Gabon; the airplane had been flying from Yaoundé, Republic of Cameroon, to Yangadou, Republic of Congo. The wreckage was found June 21. News reports said that an investigation into the cause of the crash was continuing.

Sundance said that its officials had been visiting the company's Mbalam iron ore project in Cameroon and Congo and meeting with government representatives from both countries.

The airplane was operated by Aero Service, which — along with all other air carriers certified in the Republic of Congo — is named on the European Union (EU) “blacklist” of air carriers prohibited from operating in the EU because of safety concerns.

Flight Safety Foundation earlier this year launched its Basic Aviation Risk Standard (BARS) program, aimed at establishing common safety standards for aviation operators that serve the mining and resources industry. Many of these



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operators work in areas with inadequate infrastructure and inconsistent safety standards, and before the BARS program was introduced, resource companies had no clear industry benchmarks for evaluating the safety of operators hired to transport their employees.

NextGen Milestones

The U.S. Federal Aviation Administration has reached what FAA Administrator Randy Babbitt calls a major milestone in developing the Next Generation Air Transportation System known as NextGen.

Babbitt referred to the FAA's announcement of performance requirements for the aircraft tracking equipment that will be required under NextGen. The avionics will enable increased accuracy in controlling and monitoring aircraft with automatic dependent surveillance–broadcast (ADS-B). Aircraft in some airspace will be required to broadcast their positions via ADS-B Out capability by 2020.

Babbitt noted that the technology “represents another step forward in our ability to make America's skies the safest in the world.”

The U.S. Transportation Department Office of Inspector General, however, said that “a number of critical actions” are required to successfully implement NextGen.

“Among them, and perhaps most important now, is setting realistic expectations and firm requirements for what can be achieved in the mid-term and assessing associated risks,” the Inspector General's Office said in a report issued in mid-June. “Thus far, FAA has not fully leveraged partner agencies' existing research and development that could significantly enhance NextGen development and reduce costs. While FAA has made some progress in engaging the private sector to develop NextGen and shape related policies, it must ... ensure demonstration projects are more outcome-focused.”



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In Other News ...

Officials from the European Union and the Latin American Civil Aviation Commission have signed two joint declarations calling for increased **cooperation** between the two regions. They agreed to identify more specific actions before the end of 2010. ... **Earl Weener**, a Flight Safety Foundation fellow and former chief engineer at The Boeing Co., and **Mark Rosekind**, chief scientist and president of Alertness Solutions, a fatigue management consulting firm, have been sworn in as members of the U.S. National Transportation Safety Board. ... Australia has allocated AU\$14.5 million for transport safety authorities to continue their efforts to help strengthen aviation safety in **Indonesia**. Their work is aimed at improving the enforcement of higher safety standards in Indonesia's aviation and maritime sectors.

Compiled and edited by Linda Werfelman.