

FAA Offers Safety Management Systems Guidance

The U.S. Federal Aviation Administration (FAA) has published guidance for the development of safety management systems (SMSs) by airlines, air taxi operators, corporate flight departments, pilot training schools and other aviation service providers (*Flight Safety Digest*, November–December 2005).

Neither implementation of an SMS nor compliance with the guidelines contained in Advisory Circular (AC) 120-92,

Introduction to Safety Management Systems for Air Operators, is mandatory, although the AC said that FAA encourages every aviation service provider to develop an SMS as “a quality management approach to controlling risk.”

“An SMS ... provides the organizational framework to support a sound safety culture,” the AC said. “For general aviation operators, an SMS can form the core of the company’s safety

efforts. For certificated operators, such as airlines, air taxi operators and aviation training organizations, the SMS can also serve as an efficient means of interfacing with FAA certificate oversight offices. The SMS provides the company’s management with a detailed roadmap for monitoring safety-related processes.”

The AC said that an SMS also should address a company’s safety culture because the principles of an SMS will function properly only if “the people that make up the organization function together in a manner that promotes safe operations.”

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Dornier 328 Training Recommendation

The U.K. Air Accidents Investigation Branch (AAIB) is recommending that Avcraft Aerospace, which holds the type certificate for the Dornier 328, advise operators of the airplane to provide training for pilots in dealing with situations in which power levers cannot be positioned appropriately after landing.

The safety recommendation follows a June 22, 2006, runway overrun in Aberdeen, Scotland, which occurred after the crew was unable to release the latches on the power levers to move them rearward from flight idle to the beta control range to help slow the airplane, which came to a stop in a grassy area about 350 m (1,148 ft) beyond the runway. An AAIB special bulletin said that the captain “steered the aircraft to avoid lights and antenna installations and attempted to move the condition levers to shut the engines down. Although aircraft movement over the uneven ground and the design of the condition levers made this difficult, he was eventually successful.”

The report did not include an assessment of damage to the airplane but said that it was intact and that there was no fire. None of the 19 people in the airplane was injured.

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AAIB said that the incident was similar to an overrun involving another Dornier 328 in Genoa, Italy, in 1999, in which the airplane overran the runway at speed and plunged into the Ligurian Sea. Four people drowned.

The AAIB safety recommendation said that Avcraft Aerospace should “advise all operators of Dornier 328 turboprop aircraft to detail procedures and provide adequate training to ensure that their pilots are able to act appropriately if the beta control range on the power levers cannot be selected after landing.”



Iconic Auditory Warning Signals Studied

Some unconventional auditory signals have potential to be used as warning signals in civil aviation, according to a study conducted for the Australian Transport Safety Bureau. An August 2006 report on the study, *Design and Evaluation of Auditory Icons as Informative Warning Signals*, described two experiments that examined the effect of different types of warnings, including visual warnings and auditory icons — or caricatures of everyday sounds.

“Warning signals that are iconic and that stand in a direct relation to the event being signaled, such as the sound of coughing to signal the presence of carbon monoxide, should convey information about the nature of the critical event, as well as alerting the operator that there is a problem,” the report said. “By contrast, signals that are arbitrarily associated with an event, such as a beep to signal the presence of carbon monoxide, provide little information about the nature of the event.”

Results of the study suggested that auditory iconic warnings have the potential not only to alert pilots but also to inform them of the nature of a critical incident.



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Changes Urged in Certification of Safety-Critical Systems

The U.S. National Transportation Safety Board (NTSB) has recommended changes in the process used by the U.S. Federal Aviation Administration to evaluate the compliance of critical flight safety systems with airworthiness standards.

NTSB said in its report *Safety Report on the Treatment of Safety-Critical Systems in Transport Airplanes* that recent accident investigations had generated questions about the FAA certification process. A safety-assessment process would be effective in identifying safety-critical systems during type certification,



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and the absence of any requirement for preparation of a list of safety-critical systems during type certification “compromises the ongoing assessment of these systems,” the report said.

The report included recommendations calling on FAA to “compile a list of safety-critical systems derived from the safety-assessment process for each type certification project, and place in the official type certification project file the documentation for the rationale, analysis methods, failure scenarios, supporting evidence and associated issue papers used to identify and assess safety-critical systems.”

Other recommendations called on FAA to amend advisory materials to “include consideration of structural failures and human/airplane system interaction failures” in assessing safety-critical systems, and to adopt SAE (formerly the Society of Automotive Engineers) recommendations to require ongoing assessments of safety-critical systems throughout an airplane’s life cycle.

Australian Drug Testing in Aviation

Workers in Australia’s civil aviation industry — including flight and cabin crewmembers, ground refuellers, baggage handlers, security screeners and air traffic controllers — will undergo mandatory drug and alcohol tests beginning in October 2006.

Testing will take several forms, said Warren Truss, the Australian government minister for transport and regional services.

“Testing could involve screening applicants prior to [their] taking on safety-sensitive roles, random on-the-job testing and monitoring the effectiveness of rehabilitation as an employee prepares to return to work,” Truss said.

Testing is being implemented because in other countries, tests have

reduced safety risks associated with the use of drugs and alcohol, Truss said. The testing program will be accompanied by educational initiatives designed to “warn of the dangers posed by drug and alcohol use, including prescription and over-the-counter medicines and the additional risks they can pose in a safety-sensitive aviation environment,” he said.

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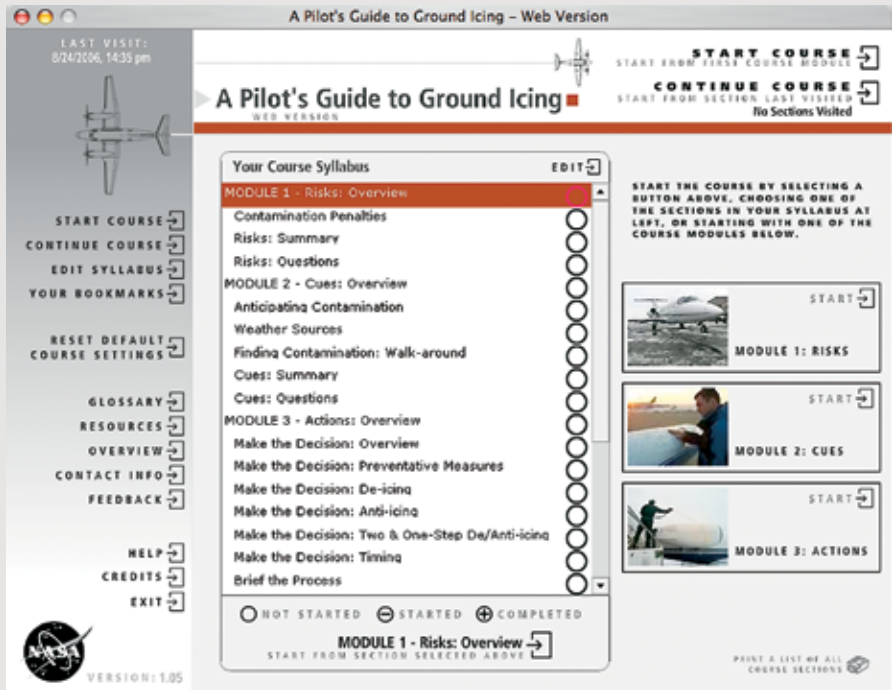


Icing-Hazards Course Takes to the Web

The U.S. National Aeronautics and Space Administration's (NASA's) Aircraft Icing Project, which has designed in-flight education and training aids to increase pilot awareness of icing hazards, now has developed Web-based courses on the same subject matter.

A report prepared for NASA on the Web-based course delivery system said that Web-based coursework reduced distribution costs and increased pilot access to the program. The program's researchers said that studies indicate that the effectiveness of icing training materials increases when visually based multimedia are used.

The courses can be downloaded from the icing project Web site at <<http://aircrafticing.grc.nasa.gov/courses.html>>.



U.S. National Aeronautics and Space Administration

In Other News ...

Mark V. Rosenker, acting chairman of the U.S. National Transportation Safety Board (NTSB) since March 2005, has been sworn in as chairman, and



Rosenker

Capt. Robert L. Sumwalt, a member of the Flight Safety Foundation Icarus Committee and a US Airways pilot for 24 years, has been sworn in as an NTSB member through 2011 and designated to serve a two-year term as vice chairman. ... The **U.S. National Transportation Safety Board** has issued an urgent recommendation after three dual-engine flameouts in two years involving Beechjet 400s with Pratt & Whitney Canada JT15D-5 engines. No one was injured in the incidents, all of which involved airplanes between 38,000 feet and 40,000 feet near convective activity; a power reduction preceded each incident. The recommendation asks the U.S. Federal Aviation Administration to require Beechjet 400 pilots to activate ignition and anti-ice systems at high altitudes if they are in or near visible moisture or near convective



Sumwalt

activity, or before a power reduction in those conditions. ... **Alteon Training**, a Boeing subsidiary, has opened a pilot and maintenance training facility at the Flight Training Center of All Nippon Airways (ANA) near Haneda Airport in Tokyo.

Compiled and edited by Linda Werfelman.