Safety News

NTSB Recommends TCAS Enhancements

Aircraft that are equipped with a traffic-alert and collision avoidance system (TCAS) also should have an enhanced aural and visual warning in the event that the system stops functioning, the U.S. National Transportation Safety Board (NTSB) says.

The NTSB has recommended that the U.S. Federal Aviation Administration (FAA) also require the enhanced warnings for existing and future system designs. Accompanying recommendations called on the FAA to evaluate the feasibility of including aural and visual warnings in future systems designed for ground collision avoidance.

In issuing the recommendations, the NTSB cited the September 2006 accident in which a Gol Airlines Boeing 737-800 and an Embraer Legacy 600 business jet collided over the Amazon. The 737 was destroyed and all 154 occupants were killed. The Legacy sustained minor damage, and its flight crew conducted an emergency landing; the five people in the airplane were not injured.

The NTSB said that preliminary findings from the accident investigation reveal "no indication of any TCAS alert on board either airplane." Both airplanes had Mode S transponders and were equipped with TCAS II, which provides traffic advisories and resolution advisories in the event of a collision risk.

In a third recommendation, the NTSB said that the FAA should inform pilots who use transponders or TCAS units about "the circumstances of this accident and the lack of a conspicuous warning to indicate the loss of collision protection resulting from a compromise in functionality of either the transponder or TCAS unit and ask all pilots who use transponders or transponder/TCAS units to become familiar with the annunciations currently used to indicate failure or lack of active functionality of these components."

The accident remains under investigation by Brazilian authorities.

Simulated Approaches

Researchers at the U.S. National Aeronautics and Space Administration (NASA) have completed a study of approaches to very closely spaced runways that found that pilots had no preference for landing on the left or the right runway.

The study, conducted at the NASA Ames Simulation Laboratories, involved scenarios in which a computer-generated lead Boeing 757 and a following 757 represented by the advanced cockpit flight simulator were flown to parallel runways that were 750 ft (229 m) apart. Enhanced cockpit displays provided the simulator pilots who were "flying" the following airplane with the position and airspeed of the lead airplane. Pilots flew approaches to the runways under eight scenarios, involving different wind and visibility conditions, and different spacing between the two airplanes.

The pilots preferred the procedures with clear visibility and greater spacing between the two aircraft — 10 seconds rather than five seconds, according to a preliminary report on the study.

Another report will be issued after additional data analysis is completed.

U.S. National Aeronautics and Space Administration

Campaign Against Fatigue

U.S. Federal Aviation Administration

The U.S. Federal Aviation Administration (FAA) and the union representing air traffic controllers in the United States should work together to reduce the potential for fatigue among air traffic controllers, the U.S. National Transportation Safety Board (NTSB) said.

In recommendations to the FAA and the National Air Traffic Controllers Association, the NTSB called for cooperative efforts to "reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for controllers to obtain sufficient restorative sleep, and by modifying shift rotations to minimize disrupted sleep patterns, accumulation of sleep debt and decreased cognitive performance."

The NTSB also recommended that the FAA develop a fatigue awareness and countermeasures training program for controllers and those who develop controller work schedules.

The recommendations were prompted by the ongoing investigation of an Aug. 27, 2006, accident in which a Comair CRJ-100 crashed during takeoff from Blue Grass Airport in Lexington, Kentucky, U.S. The airplane was destroyed, and all but one of the 50 people in the airplane were killed. The NTSB's preliminary investigation found that, after receiving a takeoff clearance for Runway 22, the crew had mistakenly conducted the takeoff on Runway 26, which — at 3,500 ft (1,068 m) — is about half the length of Runway 22.

The preliminary investigation found that the air traffic controller who cleared the accident airplane "had worked a shift from 0630 to 1430 the day before the accident, then returned nine hours later to work the accident shift from 2330 until the time of the accident at 0607 the next morning," the NTSB said. "The controller stated that his only sleep in the 24 hours before the accident was a two-hour nap the previous afternoon between these two shifts."

A related recommendation called on the FAA to require controllers to complete training in resource management skills designed to improve their judgment, vigilance and safety awareness.

Battery Warning

The Civil Aviation Safety Authority of Australia (CASA) has reiterated a warning about the risks presented by lithium batteries being transported as freight or in baggage.

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CASA cited earlier advice from the U.S. Department of Transportation (DOT), which said that spare lithium batteries should be transported in carry-on baggage rather than checked, spares should be kept in their original packaging, and loose batteries should be covered in insulating tape or carried in a plastic case to prevent contact with metal.

The DOT warning followed two fires this year on commercial airplanes that were attributed to loose lithium batteries; in each instance, the fire was extinguished by crewmembers and the airplanes were landed safely.

End-Around Taxiway Opens

What is believed to be the second "end-around" taxiway in the world has opened at Hartsfield-Jackson Atlanta (Georgia, U.S.) International Airport. End-around taxiways eliminate the need for aircraft to be taxied across active runways to reach their arrival gates, instead allowing crews to taxi to the end of a runway and then turn onto a taxiway that travels directly to the gate area.

The new US$42.5 million taxiway, which is expected to accommodate the 700 aircraft that are landed daily on Hartsfield-Jackson's northernmost runway, is part of a $6 billion airport development project. The world's first end-around taxiway was opened in Germany at Frankfurt Airport.

Crackdown on Icing

The U.S. Federal Aviation Administration (FAA) is proposing to amend airworthiness standards for transport category airplanes certificated for flight in icing conditions to require the aircraft to be equipped with a method of ensuring the timely activation of an airframe ice-protection system (IPS).

The FAA notice of proposed rule making (NPRM) was published April 26 in the *Federal Register*. Public comments on the proposal will be accepted through July 25, and a final rule may be issued after a review of the comments.

The FAA said that the proposed amendment followed a review of icing accidents and incidents that identified a number of events in which a flight crew was "either completely unaware of ice accretion on the airframe, or was aware of ice accretion but judged that it was not significant enough to warrant operation of the airframe ice-protection system."

The NPRM acknowledged the difficulty — especially at night, during times of heavy workload or when clear ice is accumulating — of determining whether there is enough ice to activate an ice protection system and said that flight crews "must be provided with a clear means to know when to activate" an airframe IPS.

The NPRM said that one of three alternatives would be acceptable: "a primary ice-detection system that automatically activates or alerts the flight crew to activate the airframe IPS; or a definition of visual cues for recognition of the first sign of ice accretion on a specified surface, combined with an advisory ice-detection system that alerts the flight crew to activate the airframe IPS; or identification of conditions conducive to airframe icing as defined by an appropriate static or total air temperature and visible moisture for use by the flight crew to activate the airframe IPS."

Praise for the SMS

Canadian aviation officials and industry leaders are crediting the 2005 introduction of safety management system (SMS) regulations in Canada with a subsequent decrease in the aviation accident rate.

After a meeting in Ottawa, the Canadian Aviation Executives Safety Network issued a statement that credited SMS with providing an additional layer of safety oversight within the aviation system.

"The safety management system is an international initiative recognized as the most significant advancement in aviation safety in recent years," said Michael DiLollo, senior vice president of Air Transat. "I believe that the development, implementation and maintenance of SMS in all areas of aviation activity is key to improving the safety and well-being of the aviation industry."

In Other News …

The government of **Nigeria** has withdrawn the operating licenses of seven airlines that failed to meet an April 30 deadline for their recapitalization. … The U.S. Federal Aviation Administration (FAA), which evaluates civil aviation authorities to determine whether they comply with International Civil Aviation Organization safety standards, has said that **Indonesia** is not in compliance. ... Authorities at many international airports outside the United States do not expect introduction of the **Airbus A380** to cause delays at their facilities, the U.S. Government Accountability Office says in an analysis of potential safety and capacity issues.

Compiled and edited by Linda Werfelman.