

Helicopter Crash Analysis

A preliminary analysis of 186 helicopter accidents in Europe between 2000 and 2005 has found that about one-third — and about 68 percent of the fatal accidents studied — occurred during the en route phase of flight.

The preliminary analysis by the European Helicopter Safety Team (EHST) was based on final investigation reports on accidents that occurred within member states of the European Aviation Safety Agency (EASA). These accidents included an estimated 58 percent of all accident reports available for that time frame and about 25 percent of the total helicopter accidents that occurred during the period. The accident analysis is being conducted as part of an overall effort to

reduce the helicopter accident rate by 80 percent by 2016, in line with objectives of the International Helicopter Safety Team.

Human factors issues were cited in 76 percent of the accidents, and the analysis, which is designed to identify safety issues and intervention recommendations, singled out three areas most frequently identified as “standard problem statements” associated with accidents: “pilot judgment and actions,” “safety culture/management” and “pilot situation awareness.”

Of the 186 accident reports analyzed, 72 involved general aviation, 66 involved aerial work, 40 involved commercial air transport and eight were state flights. Data showed that in 33 percent of the 186 accidents, the pilot had less than 1,000 flight hours in helicopters.



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New Push for Performance-Based Navigation

Major stakeholders in the aviation industry have endorsed a declaration promoting the speedy adoption of performance-based navigation (PBN) to enhance safety and efficiency in the air transport system worldwide.

“Our collective mission has always been to provide the citizens of the world with the safest and most efficient air transport system possible,” said Roberto Kobeh González, president of the Council of the International Civil Aviation Organization (ICAO). “Performance-based navigation is vital to helping us fulfill our mission today and in the future.”

Under PBN, performance requirements shift from conventional ground-based navigation aids and related procedures to satellite-based navigation aids and area navigation procedures, which provide for greater accuracy, more direct routes and more efficient takeoffs and landings.

As an example, ICAO cited the implementation of the first phase of

an agreement between Qantas and AirServices Australia to develop PBN arrival procedures at Australian airports. Phase 1 included development of approaches to be flown by Qantas Boeing 737s into Brisbane.

“In the first year, Qantas flew 1,612 PBN approaches to Brisbane in low-visibility conditions, which reduced normal distance flown by 17,300 nm [32,040 km],” ICAO said. PBN also reduces the number of diversions resulting from low visibility and improves access to “weather-challenged destinations,” ICAO said.

The 10 signers of the declaration agreed to support ICAO’s timetable for implementation of PBN and to “assist states, regions and other stakeholders in their development and execution of a complete PBN implementation plan.”

The organizations represented by the signers included ICAO, the International Air Transport Association, the Civil Air Navigation Services Organisation, the International Federation of Air Traffic



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Controllers’ Associations, the International Federation of Air Line Pilots’ Associations, the International Business Aviation Council and the International Coordinating Council of Aerospace Industries Associations.

Others were the Airports Council International, the International Federation of Helicopter Associations and Flight Safety Foundation.

Fire Prompts Safety Recommendations

All Boeing 777s should be equipped with trays to contain hot debris that might drip onto insulation blankets in case of a failure of power contactors in the airplane's main equipment center, which contains electric and avionics equipment, the U.K. Air Accidents Investigation Branch (AAIB) says.

In addition, the AAIB said that the European Aviation Safety Agency (EASA) and the U.S. Federal Aviation Administration (FAA) should require all 777s to be equipped as soon as possible with "a software update that will generate a caution message to alert flight crew of the presence of smoke in the main equipment center."

The recommendations were included in the AAIB's final report on a Feb. 26, 2007, accident involving a United Airlines 777-200 at London Heathrow Airport. None of the 205 people in the airplane was injured in the accident, which resulted in extensive heat and fire damage to a power panel near the nose gear wheel well, the report said.

The report said that the accident occurred during engine start, when an electrical failure occurred in the right main bus as the right generator came on line. The crew detected a burning odor, observed indications of the bus failure and, in response, shut down the right engine and taxied the airplane to a nearby stand. When fire fighters arrived, they found smoke but no fire.



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"The heat generated during the failure resulted in the contactor casings becoming compromised, causing molten metal droplets to fall down onto the insulation blankets below," the report said. "The insulation blankets ignited, and a fire spread underneath a floor panel to the opposite electrical panel, causing heat and fire damage to structure, cooling ducts and wiring."

Boeing said that it already has begun a review of "system architecture, smoke detection, flight deck indications and flight crew procedures across all of our production models to ensure a consistent approach to fireworthiness and flight crew indication, and identify safety enhancements that may be warranted."

North Sea Task Force

A group representing the oil and gas industry in the United Kingdom has established a task force to address issues stemming from the fatal April 1 crash of a Eurocopter AS 332L2 Super Puma in the North Sea.

The Helicopter Accident Issues Task Group, established by Oil and Gas U.K., is made up of senior industry managers and is designed to help define policies and practices that may be implemented throughout the industry in the wake of the crash, which killed all 12 passengers and both pilots.

The British Air Line Pilots' Association (BALPA) said the industry's response should be accompanied by an independent safety summit on North Sea operations involving political leaders, aviation safety experts and North Sea pilots.

In a preliminary accident report, the U.K. Air Accidents Investigation Branch (AAIB) said the pilots had made a routine transmission on a company radio frequency at 1254 local time, followed 12 seconds later by the first of two calls declaring an emergency. Witnesses saw the helicopter descend rapidly and strike the water.

The AAIB said that preliminary indications are that the accident followed the catastrophic failure of the main rotor gearbox. The investigation is continuing.

Preliminary findings resulted in several AAIB safety recommendations, including calls for additional inspections of the main rotor gearbox epicyclic module and improvements in monitoring and warning systems. Eurocopter has issued corresponding service bulletins.



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ASAP Returns

Aviation Safety Action Programs (ASAPs) have been reinstated at three major U.S. airlines where they had been abandoned during disputes between labor and management.

The voluntary, confidential safety-reporting programs were restored in late March at US Airways and American Airlines. A similar program at Delta Air Lines had been reinstated in late January.

“We are relieved to see the last big program come back online,” Flight Safety Foundation President and CEO William R. Voss said.

“The importance of these self-reporting programs cannot be overstated. ... When we can identify the little errors during a normal flight, it can lead to a change in operations that may eliminate the threat of a future major accident.”

Cabin Crew Review

As part of a review of requirements for the number of cabin crewmembers on an Australian commercial aircraft, the Australian Civil Aviation Safety Authority (CASA) has authorized some airlines to operate with a lower cabin crew-to-passenger ratio than prescribed by law.

Australian law requires one cabin attendant for every 36 passengers in airplanes that carry between 36 and 216 passengers. Worldwide, best practices have been identified as requiring one flight attendant for every 50 passengers, and under the review, “after carefully evaluating the safety implications of each change,” some airlines have been permitted to operate with one cabin attendant for every 50 passengers, CASA said. “This has included comprehensive and detailed reviews of the application and practical demonstrations by operators, taking into account evacuation efficiency and crewmember redundancy issues.”

Before a decision is made to propose changing the current requirements, the review will examine “aircraft certification requirements, the carriage of children, crew numbers per floor-level exit and the need for safety cases to move to the 1-to-50 ratio,” CASA said.



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CIS Safety Plans

The Interstate Aviation Committee (IAC) of the Commonwealth of Independent States (CIS) and the International Air Transport Association (IATA) have agreed on a plan to improve aviation safety throughout Russia and other nations that are part of the CIS.

The agreement calls for improvements in the civil aviation infrastructure, including implementation of the International Civil Aviation Organization’s (ICAO’s) standards for reduced vertical separation minimums and performance-based navigation, and emphasizes IATA’s operational safety audits (IOSA), safety audits for ground operations (ISAGO) and integrated airline management system (IAMS).

“Safety is our top priority, and the performance of the CIS is far below the global average,” said Giovanni Bisignani, IATA director general and CEO.

IATA said the new agreement expands on a 1994 pact between the IAC



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and IATA to promote “safe, secure and reliable air transport.”

Bisignani added, “Russia’s vast geography makes aviation a critical link domestically and internationally. Russia’s location puts it at the crossroads of North America, Asia, Europe and the Middle East. Russia’s seat on the ICAO Council makes it an important player in international aviation policy. IATA’s goal is to work with the Russian government to ensure that this great aviation nation is fully integrated into the global aviation system. ... The result will be a safe and efficient air transport industry delivering enormous economic benefits.”

In Other News ...

The International Federation of Air Line Pilots’ Associations has asked the European Commission and European national aviation authorities to work toward speedy development of **flight time limitations** based on a scientific study that called for strict new duty-time limits (ASW, 3/09, p. 22). ... The U.S. Federal Aviation Administration has extended until Aug. 10 the deadline for public comment on a proposal to enhance **training programs** for air carrier flight crews. The changes that would be required under the proposal include increased use of full flight simulators and special hazard training on loss of control and controlled flight into terrain (ASW, 4/09, p. 39). ... The European Commercial Aviation Safety Team (ECAST) has issued guidelines to aid in implementing **safety management systems**. The guidance materials include reviews of reference materials, hazards identification and risk assessment methods.

Compiled and edited by Linda Werfelman.