

Recommendations

New Recommendations

As a result of the investigation of this accident, the National Transportation Safety Board makes the following recommendations:

—To the Federal Aviation Administration:

Require that all 14 *Code of Federal Regulations* Part 91K, 121, and 135 operators establish procedures requiring all crewmembers on the flight deck to positively confirm and cross-check the airplane's location at the assigned departure runway before crossing the hold short line for takeoff. This required guidance should be consistent with the guidance in Advisory Circular 120-74A and Safety Alert for Operators 06013 and 07003. (A-07-44)

Require that all 14 *Code of Federal Regulations* Part 91K, 121, and 135 operators install on their aircraft cockpit moving map displays or an automatic system that alerts pilots when a takeoff is attempted on a taxiway or a runway other than the one intended. (A-07-45)

Require that all airports certificated under 14 *Code of Federal Regulations* Part 139 implement enhanced taxiway centerline markings and surface painted holding position signs at all runway entrances. (A-07-46)

Prohibit the issuance of a takeoff clearance during an airplane's taxi to its departure runway until after the airplane has crossed all intersecting runways. (A-07-47)

Revise Federal Aviation Administration Order 7110.65, "Air Traffic Control," to indicate that controllers should refrain from performing administrative tasks, such as the traffic count, when moving aircraft are in the controller's area of responsibility. (A-07-48)

Previously Issued Recommendations Reiterated in This Report

The Safety Board reiterates the following recommendations to the Federal Aviation Administration:

Amend 14 *Code of Federal Regulations* (CFR) Section 91.129(i) to require that all runway crossings be authorized only by specific air traffic control clearance, and ensure that U.S. pilots, U.S. personnel assigned to move aircraft, and pilots operating under 14 CFR Part 129 receive adequate notification of the change. (A-00-67)

Amend Federal Aviation Administration Order 7110.65, "Air Traffic Control," to require that, when aircraft need to cross multiple runways, air traffic controllers issue an explicit crossing instruction for each runway after the previous runway has been crossed. (A-00-68)

Previously Issued Recommendations Resulting From This Accident Investigation

As a result of the investigation into this accident, the Safety Board issued the following recommendations to the Federal Aviation Administration (FAA) on December 12, 2006:

Require that all 14 *Code of Federal Regulations* Part 121 operators establish procedures requiring all crewmembers on the flight deck to positively confirm and cross-check the airplane's location at the assigned departure runway before crossing the hold short line for takeoff. (A-06-83)

Require that all 14 *Code of Federal Regulations* Part 121 operators provide specific guidance to pilots on the runway lighting requirements for takeoff operations at night. (A-06-84)

For additional information about these recommendations, see sections 1.18.3.1 and 2.4.1 of this report.

Also, the Board issued the following recommendations to the FAA on April 10, 2007:

Work with the National Air Traffic Controllers Association to reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for rotations to minimize disrupted sleep patterns, accumulation of sleep debt, and decreased cognitive performance. (A-07-30)

Develop a fatigue awareness and countermeasures training program for controllers and for personnel who are involved in the scheduling of controllers for operational duty that will address the incidence of fatigue in the controller workforce, causes of fatigue, effects of fatigue on controller performance and safety, and the importance of using personal strategies to minimize fatigue. This training should be provided in a format that promotes retention, and recurrent training should be provided at regular intervals. (A-07-31)

Require all air traffic controllers to complete instructor-led initial and recurrent training in resource management skills that will improve controller judgment, vigilance, and safety awareness. (A-07-34)

For additional information about these recommendations, see section 1.18.3.2 of this report.

In addition, the Board issued the following recommendation to the National Air Traffic Controllers Association on April 10, 2007:

Work with the Federal Aviation Administration 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. (A-07-32)

For additional information about this recommendation, see section 1.18.3.2 of this report.

Previously Issued Recommendations Classified in This Report

Safety Recommendation A-06-83 is classified “Closed—Acceptable Alternate Action/Superseded,” and Safety Recommendation A-06-84 is classified “Open—Acceptable Alternate Response,” in section 2.4.1 of this report.

Safety Recommendations A-07-30 and -31 are classified “Open—Acceptable Response” in section 2.2.3.3 of this report.

Safety Recommendation A-07-34 is classified “Open—Acceptable Response” in section 2.2.3.2 of this report.