

4. RECOMMENDATIONS

4.1 New Recommendations

As a result of this investigation, the National Transportation Safety Board makes the following recommendations to the Federal Aviation Administration:

Immediately require all 14 *Code of Federal Regulations* Part 121, 135, and 91 subpart K operators to conduct arrival landing distance assessments before every landing based on existing performance data, actual conditions, and incorporating a minimum safety margin of 15 percent. (A-07-57) Urgent (Supercedes Safety Recommendation A-06-16 and classified "Open – Unacceptable Response.")

Require all 14 *Code of Federal Regulations* Part 121 and 135 operators to ensure that all on board electronic computing devices they use automatically and clearly display critical performance calculation assumptions. (A-07-58)

Require all 14 *Code of Federal Regulations* Part 121 and 135 operators to provide clear guidance and training to pilots and dispatchers regarding company policy on surface condition and braking action reports and the assumptions affecting landing distance/stopping margin calculations, to include use of airplane ground deceleration devices, wind conditions and limits, air distance, and safety margins. (A-07-59)

Require all 14 *Code of Federal Regulations* Part 121 and 135 operators of thrust reverser-equipped airplanes to incorporate a procedure requiring the non-flying (monitoring) pilot to check and confirm the thrust reverser status immediately after touchdown on all landings. (A-07-60)

Require all 14 *Code of Federal Regulations* Part 121, 135, and 91 subpart K operators to accomplish arrival landing distance assessments before every landing based on a standardized methodology involving approved performance data, actual arrival conditions, a means of correlating the airplane's braking ability with runway surface conditions using the most conservative interpretation available, and including a minimum safety margin of 15 percent. (A-07-61)

Develop and issue formal guidance regarding standards and guidelines for the development, delivery, and interpretation of runway surface condition reports. (A-07-62)

Establish a minimum standard for 14 *Code of Federal Regulations* Part 121 and 135 operators to use in correlating an airplane's braking ability to braking action reports and runway contaminant type and depth reports for runway surface conditions worse than bare and dry. (A-07-63)

Demonstrate the technical and operational feasibility of outfitting transport-category airplanes with equipment and procedures required to routinely calculate, record, and convey the airplane braking ability required and/or available to slow or stop the airplane during the landing roll. If feasible, require operators of transport-category airplanes to incorporate use of such equipment and related procedures into their operations. (A-07-64)

4.2 Previously Issued Recommendation Resulting From This Accident Investigation and Classified in this Report

As a result of the SWA flight 1248 accident investigation, the Safety Board issued the following urgent safety recommendation to the FAA on January 27, 2006:

Immediately prohibit all 14 *Code of Federal Regulations* Part 121 operators from using reverse thrust credit in landing performance calculations. (A-06-16)

This recommendation (previously classified "Open—Unacceptable Response" on May 8, 2007) is classified "Closed—Unacceptable Action/Superceded" by Safety Recommendation A-07-57 in section 2.3 of this report.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

Mark V. Rosenker
Chairman

Deborah A. P. Hersman
Member

Robert L. Sumwalt
Vice Chairman

Kathryn O'Leary Higgins
Member

Steven R. Chealander
Member

Adopted: October 2, 2007

5. APPENDIXES

APPENDIX A

INVESTIGATION AND PUBLIC HEARING

Investigation

The National Transportation Safety Board was notified about the accident on December 8, 2005, shortly after it occurred. A full go-team arrived at the accident scene early the next morning. The go-team was accompanied by representatives from the Safety Board's Office of Transportation Disaster Assistance and Public Affairs and by then Chairman-designee Ellen Engleman Connors.

The following investigative groups were formed during the course of this investigation: Structures, Systems, Powerplants, Air Traffic Control, Meteorology, Operations, Human Performance, Airport/Survival Factors, Airplane Performance, Flight Data Recorder, and Cockpit Voice Recorder.

Parties to the investigation were the Federal Aviation Administration (FAA); Boeing Commercial Airplane Company; Southwest Airlines, Inc. (SWA); Southwest Airlines Pilots Association (SWAPA); National Air Traffic Controllers Association (NATCA); the City of Chicago; CFM International; SWA Employee Association Dispatch; Transport Workers Union #556; and SWA AMFA. The Safety Board received submissions on this accident from SWA, SWAPA, Boeing, and the City of Chicago.

Public Hearing

A public hearing was held on June 21 and 22, 2006, in Washington, D.C. Then-Acting Chairman Mark V. Rosenker presided over the hearing.

The issues discussed at the public hearing were the accuracy and dissemination of runway friction measurements, the adequacy of runway safety areas on the ends of runways, and aircraft landing performance. Parties to the public hearing were the FAA, SWA, SWAPA, Boeing Commercial Airplane Company, and the City of Chicago.