



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: September 3, 1986
 In reply refer to: A-86-87 through -89

Mr. Oris Dunham
 Executive Director
 Dallas/Fort Worth Airport
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On August 2, 1985, at 1805:52 central daylight time, Delta Air Lines (Delta) flight 191, a Lockheed L-1011-385-1, N726DA, crashed while approaching to land on runway 17L at the Dallas/Fort Worth International (DFW) Airport, Texas. While passing through the rain shaft beneath a thunderstorm, flight 191 entered a microburst which the pilot was unable to traverse successfully. The airplane struck the ground about 6,300 feet north of the approach end of runway 17L, hit a car on a highway north of the runway killing the driver, struck two water tanks on the airport, and broke apart. Except for a section of the airplane containing the aft fuselage and empennage, the remainder of the airplane disintegrated during the impact sequence, and a severe fire erupted during the impact sequence. Of the 163 persons aboard, 134 passengers and crewmembers were killed; 26 passengers and 3 cabin attendants survived. ^{1/}

DFW Airport Department of Public Safety (DPS) personnel responded quickly and efficiently and contributed significantly to saving the lives of a number of seriously injured victims. However, the Safety Board's investigation of this accident uncovered several problems with the DFW Airport Emergency Plan, including emergency response communications procedures, which, under other circumstances, could adversely affect the survival of some persons and the medical treatment of others.

At 1814 the DPS Communications Center began notifying off-airport police, fire, and ambulance agencies to request assistance as prescribed in the Federal Aviation Administration (FAA)-approved DFW Airport Emergency Plan. The Communications Center operator used a checklist provided for mutual-aid agency notification. The checklist required 21 telephone calls (many with alternate numbers), two radio notifications, and two off-airport alert broadcasts. In addition, the operator was simultaneously required to monitor the airport's primary police radio channel. Forty-five minutes elapsed from the time of the accident to the time the operator was able to complete notification of off-airport agencies. The Safety Board believes the amount of time taken to request assistance from agencies, which may have been needed for lifesaving activities, is excessive.

^{1/} For more detailed information, read Aircraft Accident Report--"Delta Air Lines, Inc., Lockheed L-1011-385-1, N726DA, Dallas/Fort Worth International Airport, Texas, August 2, 1985" (NTSB/AAR-86/05).

Parkland Hospital in Dallas, Texas, was initially advised of the crash at 1819 by the DFW Airport paramedic unit. The DPS Communications Center directly notified Parkland Hospital at 1831 and John Peter Smith Hospital in Fort Worth, Texas, at 1828. Hurst-Eules-Bedford and Northeast Community Hospitals were not notified although both are closer to DFW and both received injured persons from the crash. None of the hospitals received information on victim status or intended destinations.

The Safety Board believes that had more persons survived with serious injuries, the lack of coordination could have resulted in an inability of area hospitals to cope properly with the number and types of casualties involved.

The National Fire Protection Association (NFPA) recently issued guidance material on this subject: "NFPA 424 M, Manual for Airport/Community Emergency Planning. Chapter 3, Section 6.5 of the Manual states:

The plan should designate a medical transportation officer whose responsibilities include:

- (a) Alerting hospitals and medical personnel of the emergency.
- (b) Directing transportation of casualties to hospitals.
- (c) Accounting for casualties by recording route of transportation, hospitals transported to, and casualty's name and extent of injuries.
- (d) Advising hospitals when casualties are en route.
- (e) Maintaining contact with hospitals, medical transportation, the senior medical officer, on-scene command post and the command post.

The Safety Board believes that these recommended actions can become critical to the effective handling of mass casualty disasters and that assignment of responsibility for accomplishing these tasks should be specifically addressed in airport/community emergency procedures. Based on the flight 191 accident, the Safety Board believes the DFW Airport DPS should revise its emergency communications procedures to provide for timely and effective coordination with all the applicable mutual-aid agencies.

Although the Safety Board recognizes that the overall effectiveness of the emergency response to the August 2, 1985, accident was excellent and contributed significantly to saving lives, the Safety Board is concerned that communications problems like those outlined above could hinder effective emergency response under different circumstances in the future.

At the time of the Delta accident, 6 years had elapsed since the last full-scale exercise of the DFW Airport Emergency Plan. This interval was excessive and most probably contributed to the difficulties experienced by the DPS personnel with off-airport notification procedures and with procedures in the assembly area for off-airport units. The Safety Board recognizes that during any large emergency response effort which involves multiple jurisdictions, communications and coordination problems are likely to occur; however, thorough planning, training, and periodic full-scale drills can reduce such difficulties appreciably. An evaluation of periodic communications

exercises would have shown that (1) the communications operator could not complete the required notifications within a reasonable time, and (2) the system for alerting off-airport ambulances and hospitals was incomplete. Once identified, these discrepancies could have been corrected.

During the Safety Board investigation of this accident the director of the DFW Airport DPS stated informally that in the future DFW Airport intends to conduct full-scale exercises of the DFW Emergency Plan every other year. During alternate years, disaster drills will be conducted in one of the four adjacent communities on a rotating basis.

The Safety Board believes that full-scale tests of emergency plans and procedures should be conducted periodically at certificated airports. As a result of its study of airport certification and operations, 2/ the Safety Board recommended on April 16, 1984, that the FAA:

Amend 14 CFR 139.55 to require a full-scale demonstration of certificated airport emergency plans and procedures at least once every 2 years, and to require annual validation of notification arrangements and coordination agreements with participating parties. (A-84-34)

On August 6, 1984, the FAA replied that it intended to revise 14 CFR Part 139 to require full-scale demonstration of emergency plans and procedures where practicable and that the required timing will be "variable from 2 to 4 years based on the air carrier activity level at each airport." The FAA has issued a Notice of Proposed Rule Making (NPRM) Revision of Airport Certification Rules, 85-22 on October 23, 1985. The NPRM contains the proposed amendments to 14 CFR Part 139; however, the NPRM does not propose to require periodic demonstrations of certificated airport emergency plans and procedures.

Therefore, the National Transportation Safety Board recommends that the Dallas/Fort Worth International Airport Board:

Revise its disaster response notification procedures to provide for timely and effective notification of mutual-aid agencies whose assistance is needed. (Class II, Priority Action) (A-86-87)

Revise its procedures for coordinating with area hospitals during mass casualty disasters to provide the hospitals with timely information regarding estimated numbers of victims, injury categories, destinations, and arrival times. (Class II, Priority Action) (A-86-88)

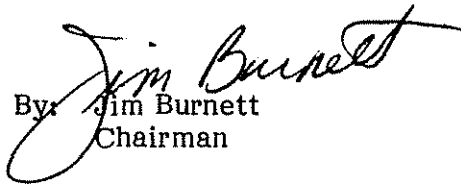
Conduct full-scale demonstrations of the Dallas/Fort Worth Airport Emergency Plan and Procedures every 2 years. (Class II, Priority Action) (A-86-89)

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response

2/ Safety Study—"Airport Certification and Operations" (NTSB/SS-84/02).

from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations A-86-87 through -89 in your reply.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER and NALL, Members, concurred in these recommendations.


By: Jim Burnett
Chairman