

**NATIONAL TRANSPORTATION SAFETY BOARD  
OFFICE OF AVIATION SAFETY  
WASHINGTON, D.C.**

December 1, 1999

**SURVIVAL FACTORS GROUP CHAIRMAN'S FACTUAL REPORT**

A. ACCIDENT : DCA99MA060  
LOCATION : Little Rock, Arkansas  
DATE : June 1, 1999  
OPERATOR : American Airlines  
TIME : 2351 Central Daylight Time (CDT)  
AIRCRAFT : McDonnell Douglas MD-82, N215AA

B. SURVIVAL FACTORS GROUP

Group Chairman : Mark H. George  
National Transportation Safety Board  
Washington, DC

Member : Jason T. Fedok  
National Transportation Safety Board  
Washington, DC

Member : Cynthia L. Keegan  
National Transportation Safety Board  
Washington, DC

Member : Robert J. Molloy, PhD.  
National Transportation Safety Board  
Washington, DC

Member : Rick Baggette  
Boeing Commercial Airplane Group  
Everett, WA

Member : Paul Bentley  
Weber Aircraft  
Gainesville, TX

Member : Emily Carter  
Association of Professional Flight Attendants  
Eules, TX

Member : Charles A. DeJohn, DO  
FAA Civil Aeromedical Institute  
Oklahoma City, OK

Member : Hank T. Don  
Boeing Commercial Airplane Group  
Long Beach, CA

Member : Lonny Glover  
Association of Professional Flight Attendants  
Eules, TX

Member : R. Van Gowdy  
FAA Civil Aeromedical Institute  
Oklahoma City, OK

Member : Mark Hill  
American Airlines  
Tulsa, OK

Member : Barbara Phillips  
Federal Aviation Administration  
Dallas, TX

Member : Debbie Roland  
Association of Professional Flight Attendants  
Eules, TX

Member : Tammy Smart  
American Airlines  
Dallas, TX

Member : Tobie Thompson  
Weber Aircraft  
Gainesville, TX

Member : Jennifer Todd  
American Airlines  
Dallas, TX

Member : Melanie Wahrmond  
American Airlines  
Dallas, TX

Observer : Britt Covington  
US Air Force  
Kirkland AFB, NM

## C. SUMMARY

On June 1, 1999, at 2351 Central Daylight Time (CDT), a McDonnell Douglas MD-82, N215AA, operated by American Airlines as flight 1420, a regularly scheduled passenger service from Dallas, Texas, overran the end of runway 4R and collided with the approach light stanchion at the Little Rock National Airport, in Little Rock, Arkansas. The captain and 10 passengers sustained fatal injuries; 110 passengers and crew sustained various injuries, and 24 passengers were not injured. Shortly before the accident, the weather conditions at the airport were reported as: wind from 180 degrees at 9 knots, visibility 7 miles with thunderstorms, few clouds at 7,000 feet in cumulonimbus clouds, ceiling broken at 10,000 feet; temperature 77 degrees F, dew point 73 degrees F; altimeter, 29.86 Hg; Remarks - ASOS observation - thunderstorm began at 23 minutes after the hour, frequent lightning in clouds, and cloud-to-cloud, located from the west through the northwest; thunderstorms west through northwest moving northeast. The airplane was being operated in accordance with 14 CFR 121, and an instrument flight rules (IFR) flight plan had been filed.

## D. DETAILS OF THE INVESTIGATION

### 1.0 Aircraft Configuration

The airplane cabin was configured with 14 first-class passenger seats and 125 coach-class passenger seats. There was an aft-facing double occupancy flight attendant jumpseat at the 1L exit, and forward-facing double-occupancy flight attendant jumpseat mounted on the aft pressure bulkhead. A single forward-facing flight-attendant jumpseat was located in the aft galley at the 2L exit. The cockpit contained 2 flight crew seats and an observer's seat (Figure 1: Aircraft Cabin Configuration).

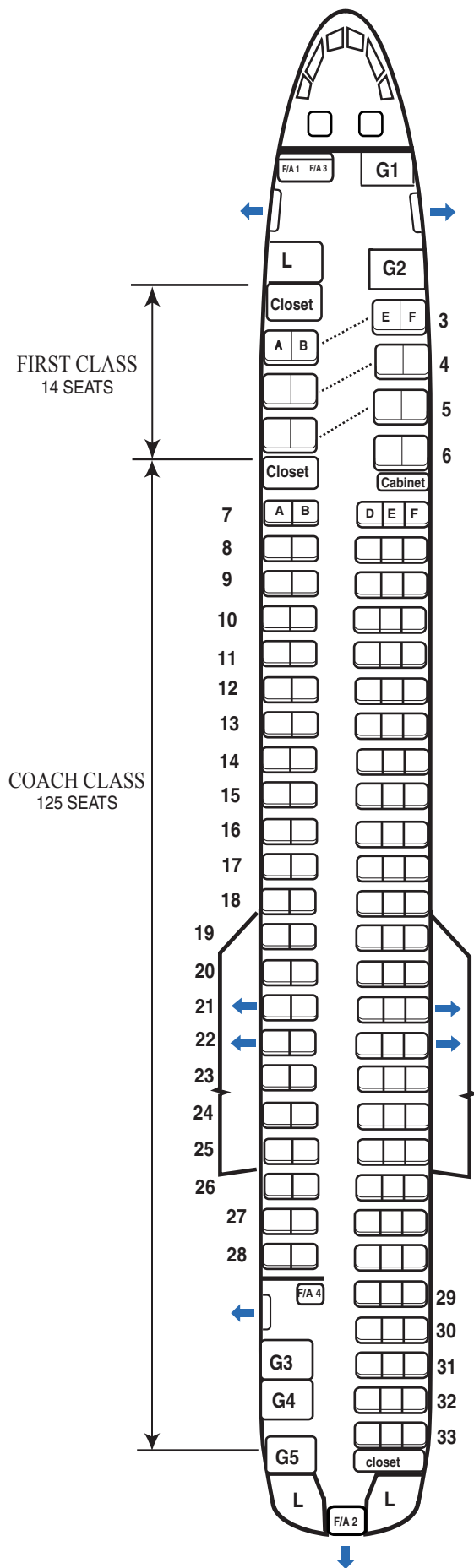
### 2.0 Crew Information

#### 2.1 Cockpit Crew Interviews

The first officer was interviewed by the Operations and Human Performance Groups. Summaries of those interviews are contained in the Operations and Human Performance Groups' Factual Reports.

#### 2.2 Cabin Crew Interviews

According to American Airlines' records, flight attendants numbers 1, 2 and 4 began a three-day trip on May 31, 1999 in Dallas (DFW). The first segment departed DFW at 1719 CDT and landed in Nashville (BNA) at 1914 CDT. The second segment departed BNA at 1955 CDT and landed at DFW at 2139 CDT. The third segment departed DFW at 2225 CDT and arrived at San Antonio (SAT) at 2320 CDT. They stayed over night in San Antonio. On June 1,



Legend

G = Galley  
 L = Lavatory  
 F/A = Flight Attendant Jump Seat

**Figure 1**  
**Airplane Cabin Configuration**

the second day of the trip, the first segment departed SAT at 1221 CDT and landed at DFW at 1338 CDT. The second segment departed DFW at 1419 CDT and arrived in Atlanta (ATL) at 1734 EDT. The third segment departed ATL at 1817 EDT and arrived in DFW at approximately 1941 CDT. The fourth segment, flight 1420, was scheduled to depart DFW at 2028 CDT, and actually departed at 2240 CDT. According to American Airlines' records, flight 1420 "arrived" in Little Rock (LIT) at 2355 CDT.

According to American Airlines' records, on June 1, 1999, flight attendant number 3 began a two-day trip at DFW. The first segment departed DFW at 1540 CDT and landed in Amarillo (AMA) at 1651 CDT. The second segment departed AMA at 1834 CDT and arrived at DFW at 2025 CDT. Flight attendant number 3 then joined the crew of flight 1420, departing DFW at 2240, and "arriving" at LIT at 2355 CDT.

The Survival Factors Group interviewed 3 of the 4 flight attendants (Numbers 1, 2, and 4) on June 3, 1999. The fourth flight attendant (Number 3) was interviewed on June 4, 1999. Present at the interviews were: Mark George, NTSB; Debbie Roland, APFA; Barbara Phillips, FAA; Melanie Wahrmund, AAL; and David Mayer, NTSB.

Flight Attendant Number 1 (F/A No.1)  
Forward jump seat, outboard

She had been on vacation prior to this trip. She was assigned this trip off of standby reserve twenty minutes prior to departure of the first segment on May 31. She had a good night's sleep the night before (at least nine hours). She normally flies the F-100 as lead flight attendant (position 1).

On June 1, 1999, prior to the departure of flight 1420 from DFW, F/A No. 1 learned that the original airplane for the DFW segment to Little Rock had been reassigned to Boston. During the ground delay, she went to the flight attendant operations area and monitored computer information for arrival of the new airplane. She met the captain at the gate, and he informed her of a possible ground hold for up to 52 minutes. He also informed her that the alternate airport for Little Rock was Nashville, and that storms had moved toward Little Rock during the ground delay. She stated that the pilots would exceed their maximum allowable duty periods at 2316. She did not meet the first officer, as he was already in his seat on the airplane. The gate agent came on board and F/A No. 1 told the gate agent that the flight attendants were tired. The gate agent started closing overhead bins and then shut the main cabin door.

The airplane pushed back and began taxi. Approximately 15 minutes into taxi, the captain announced, "Flight attendants prepare for takeoff" and they took off without a ground hold. After takeoff, the airplane experienced minor turbulence. There was no additional discussion about diverting to Nashville. F/A No. 1 stated other flight attendants called and asked if they could start the service. The flight attendants began the service. The captain found a smoother altitude and she went to the cockpit to feed them. The captain informed her he had already eaten and would not be eating during the flight. The first officer said he was too busy, but would eat on the ground. She gave the captain bottled water and the first officer a soft drink.

Three-fourths of the way into the flight the captain called back and asked the flight

attendants to “speed it up, get things picked up, and sit down.” He thought there might be some turbulence. F/A No. 1 could see a lot of lightning. F/A No. 1 turned the lights down so everyone could see the lightning. She stated it was not very turbulent. The captain made an announcement informing passengers they would be landing in 25 minutes. The captain made an announcement to prepare for landing. F/A No. 1 stated that a first class passenger had been using a laptop computer and she told him to turn it off. She said she “is pretty strict about that.” She observed no electronic devices in use during landing. It appeared to her the airplane was going slow and the captain was avoiding the storms.

Descent was smooth. Once the gear went down, it got bumpy. She reported hearing an electronic male voice warning in the cockpit after the gear went down. She was unable to ascertain what the warning said. She began counting down from 50, as was her usual personal practice, and expected to touchdown at 1. When she got to 1 they were not on the ground and began counting 1-6. They were on the ground at 6. She reported the landing as “normal, nothing out of the ordinary.” The airplane movement during this portion of the landing was smooth, and there was no skidding. For two seconds it seemed fine (the airplane was going straight) and then it seemed like they were “hydroplaning.” She heard no tire sounds, and thought they were hydroplaning and going into the grass. She told F/A No.3 to prepare to evacuate and pointed to the forward galley (1R) exit.

The next thing she remembered was a huge boom at the entry door and felt something come against her body. She recalled hearing a man say “Girls, get out of the airplane, it is on fire.” She opened her eyes and believes she must have been unconscious. She felt the slide with her right hand and thought it had inflated into the cabin. It was dark in the cabin. F/A No. 1 reported hearing F/A No. 3 screaming in pain. The passenger from seat 3E was trying to get F/A No.3 out of her seat. F/A No. 3 had her seat belt still fastened, so she unbuckled it. The passenger carried F/A No. 3 out. F/A No. 1 heard the first officer screaming about the captain. F/A No. 1 realized her restraint was still on, so she unbuckled it and got up. Then, she felt numbness in her hips. Her jumpseat harness had remained intact. She stated their jumpseat area had become a lot smaller. She knew she couldn’t do anything with her door (1L). She was injured and had to get out.

She walked up the inclined cabin floor to the forward galley exit (1R) and tried to push up on the handle twice. She realized no one was coming toward the exit and it was silent in the cabin. She then went aft (the direction that the passenger in 3E had carried out F/A No. 3). She observed a gaping hole in the first class cabin. The airplane was “pretty clear of passengers.” She stated she must have been there for a while before getting out and reported being the last person out in the front part of the airplane. She did not see other people evacuating the airplane. F/A No. 1 reported hearing voices and walked out the airplane through the hole in the first class cabin. A woman passenger was standing outside and telling people to get away from airplane.

After F/A No. 1 got out, she observed fire all around the tail of the airplane. The woman passenger led her away through thigh-deep water to an island. Several teenage boys helped her get to an island. She observed rain, strong winds, hail, and cloud-to-cloud lightning, but not sky-to-ground. All passengers in the group were crouching. The boys told her to get down but she was unable to do so because of her injury. The male passenger from seat 3E stayed with her. A

paramedic came to the group and instructed them to lay her down. She was evaluated by paramedics, and they determined she had no internal bleeding. She was the last person to be put on an ambulance and taken to the hospital. She kept telling the paramedics to first take others who were more seriously injured.

#### Flight Attendant Number 2 (F/A No. 2)

##### Tail cone exit jumpseat

Before this trip, F/A No. 2 had completed a three-day trip that ended in DFW on Saturday morning, May 29, 1999. She had most of Saturday and Sunday off. This trip signed in around 1600 Monday, May 31, 1999. She slept well on the night prior to the accident (at least 8 or 9 hours of sleep). On the SAT segment she became aware there was “weather” in DFW that was headed toward Little Rock. She became aware of the “weather” in Little Rock from other flight attendants and knew they might have to divert. F/A No. 2 reported that she did not meet the cockpit crew prior to boarding. She had gone straight to the airplane, and boarding began just after she put her things away. A flight attendant (No.1 or No. 4) informed her they might have to go to Nashville instead of Little Rock. That flight attendant had heard it from one of the pilots, and stated they might have a fifty-two minute gate hold. The gate agent was anxious to get them out because the pilots were reported to be nearing the end of their duty-time limit.

She stated that it was a “typical rushed boarding.” She saw at least one child in a child restraint seat. F/A No. 2 reported nothing unusual during the flight except a little “chop” coming out of DFW. The captain advised them to sit down early, because it might get bumpy. She proceeded to her jumpseat and requested that the No.4 flight attendant turn off the galley light so they could see the lightning. A lot of reading lights were on. It was a normal approach, however it was a little bumpy and turbulent, although she had experienced worse turbulence in her 12 years of flying.

Touchdown was normal and “seemed nice.” She had expected the landing to be “a slam it down” landing. No oxygen masks dropped. After the first time the pilot tried to brake, it felt like they were sliding down the runway “crooked to the right.” When he tried to brake again, she reported a change in the airplane’s direction and thought it was going right. “It didn’t grip at all.” She heard the thrust reversers and stated they “didn’t do a thing - nothing was grabbing.” The pilot “let off the thrust reversers” and then “turned them on again,” and applied brakes. She felt the airplane tilt a little to the right. The “attitude” was wrong. The No. 4 flight attendant was yelling “brace, brace.” She observed luggage flying out the overhead bins in the aft part of the airplane. Seats were “coming out of their brackets.” She did not feel she was being slammed around at all, or not as much as the passengers, who were moving all around. She watched the entire time. She then saw a glow and lots of smoke. She had removed her shoulder harness before they stopped. After the airplane stopped, she got out of the jumpseat. She saw fire in the mid-cabin area and lots of smoke. She instructed passengers to unfasten their seat belts and come toward the tail cone exit.

She continued shouting commands as she attempted to open the door to the tail cone. The door would not open. She yelled for passengers to turn around and go forward. She reported that “people were piling up.” She was not able to see, because it was dark and smoky. She saw seats overturned near the aft coat closet. She was not sure if she saw seats or passengers

lying there. No emergency lights were on. She started yanking on the strap on the door that is used to pull it open, and yelled at a couple of men to help open the door. She stopped and looked at F/A No. 4's exit and didn't see anyone going out that door. Her door was finally opened enough to get through. People followed her onto the catwalk but the tail cone had not deployed. While on the catwalk, she instructed people to go back into the cabin. There was thick black smoke in the aft part of the airplane, and people were coughing. She reached for the manual handle and pulled repeatedly (she estimates 10-20 times). She reported the handle was easy to pull and felt normal. One man followed her back onto the catwalk. The other passengers had obeyed her commands and had gone forward into the cabin. When she told them to go the other way, they did. A big flash of lightning enabled her to see a crack between the fuselage and the tail cone, and she saw grass outside. Then, she realized they were on the ground. She thought they were not going to be able to get out that exit. She believed at this time that people must have been getting out F/A No. 4's exit. She knew it was not a "mass exodus" and had to continue to try to open her exit. At this time she observed a thick black roll of smoke in the cabin and thought they would be stuck in the tail cone. She heard F/A No. 4 shouting but could not tell what she was saying. She began kicking at the crack and finally kicked open a crack wide enough for her and the man with her to get out.

As she was exiting, she yelled back into the cabin for others to follow. She could not see if others exited out this opening. The smoke was thick and billowing in the cabin. It was swampy outside. She and the man squatted down and put their faces in the water to get out of black smoke. The wind changed direction and then she could see people. The passengers began walking away from the airplane through knee-high water toward a higher area away from the airplane. As soon as she arrived at the higher location she looked at her watch. She reported the time as "approximately midnight." She saw F/A No. 3 lying on the ground with a passenger lying up against her. The passenger said that F/A No. 3 was going into shock. F/A No. 2 stayed with F/A No. 3 until someone came and got them. Other people were continuing to come up to the group. A couple of men drove up and waded through the water and helped do triage. She was not sure who they were. They remained there for an hour to an hour and a half. It was pouring rain, with severe lightning, and wind gusts. She was afraid they would be struck by lightning. She did not remember any hail. She was glad they had turned off the lights around the jumpseat so her eyes had adjusted to the dark before the accident.

#### Flight Attendant Number 3 (F/A No.3)

##### Forward jumpseat, inboard

F/A No. 3 had a 1440 sign-in time. She flew DFW-AMA-DFW before her DFW-Little Rock segment. F/A No. 3 met the first officer at the departure gate. She recalled the flight to Little Rock was delayed 52 minutes out of DFW. She remembered a discussion about Nashville being their alternate airport. The boarding was rushed due to pilot duty-time issues.

During boarding she observed one passenger with a cell phone and instructed him not to use it. After take-off, the flight was bumpy, and the service was delayed due to the "bumpy air." The service and pick-up were completed. The cockpit called back and instructed them to take their seats early. She recalled seeing a lot of lightning and felt turbulence. She also recalled seeing a first-class passenger with a laptop and told him at least three times to turn it off. She asked F/A No. 1 to also tell him to turn it off. The cabin lights were off for final descent. Before



the gear was extended, she thought she felt the nose go up, like they were going to do a go-around. The gear then went down. It seemed to her that it took a longer time than usual before touchdown. She did not recall hearing any alarms or sounds from the cockpit prior to landing.

The landing was hard and fast. The airplane bounced, and swerved a few times. She remembered the roll out being louder than usual. When the airplane finally stopped, it collapsed and came apart. She thinks she was hit in the head and blacked out. F/A No. 3 heard someone yell for her and F/A No. 1 to get out. She was unable to get out of her jumpseat. She tried to stand but could not. She knew her leg was broken. There was debris everywhere. A passenger carried her out a hole in the airplane and placed her on the ground. Another passenger carried her away from the airplane. She waited in the field for help. After she was out of the airplane, she remembered hard rain, hail and a lot of lightning. She was transported to a hospital. She had never flown in storms like this before.

Flight Attendant Number 4 (F/A No.4)  
Aft galley jumpseat, Exit 2L

F/A No. 4 entered the airplane and introduced herself to the captain and the first officer. She recalled joking with the captain about the long day. The captain said he was tired. The flight was approximately fifty-two minutes late for departure. She and the first officer discussed their duty-time limitations and he told her that they would be “going illegal” at 2316. She remembered talking to the captain about possible severe weather in Little Rock, and that Nashville was their alternate airport. The gate agent wanted to board the airplane as soon as possible to get the airplane off before the pilots “went illegal.” F/A No. 4 said that the boarding process was normal under the rushed circumstances. The gate agent began closing the overhead bins for departure.

The safety demonstration was completed and the flight took off for Little Rock. She said that the takeoff was normal but a little bumpy. After takeoff, F/A No. 2 called the captain regarding the bumpy ride. The captain told her that he would find a different altitude and that they could begin their service. The service was completed and pick-up was normal. F/A No. 1 came back to tell them that the captain had requested that they pick up the cabin and stow all the service items due to possible weather going in to Little Rock. F/A No. 2 requested that the galley lights be turned off so the passengers could see the lightning.

F/A No. 4 noticed that the passengers in row 28, seats D and E, were looking nervous. She tried to reassure them. She took her jumpseat for landing. After the gear was lowered and while on approach, F/A No. 4 felt the airplane take a couple of turns. She felt that the airplane was going slower and she saw large rain drops out the window.

F/A No. 4 noticed that it took longer to touch down than normal. She heard a sigh of relief from passengers after touchdown. On the ground, she felt the airplane sliding, then heard rumbling. The airplane swayed and veered to the right. She bent down and grabbed her knees and then yelled “brace” several times. She was still in her harness when she felt a thump on the back of her head. She landed on the lap of the passenger in seat 29D. She does not remember the airplane coming to a final stop nor does she remember getting up. F/A No. 4 heard the engines

still running after the airplane came to a final stop. She believed that she was able to see in the cabin because her eyes were already adjusted to darkness.

She looked at her door and noticed that it was “caved inwards and bent at the top,” and noticed that there was no smoke outside the exit. She knew that her exit would not open. She noticed a hole at the top of the door frame. F/A No. 4 looked in the direction of F/A No. 2 and observed her trying to open the tail cone exit. She instructed the passengers to go to the window exits and to stay low due to the smoke in the cabin. She climbed over a displaced seat in the aft part of the airplane, and again looked at F/A No. 2 who was still struggling to open her exit. She saw two men trying to help her pry the door open.

The cabin was “clearing” of passengers, and F/A No. 4 started sending the passengers toward the tail cone exit. Passengers began coming forward from the tail cone area stating the exit would not open. F/A No. 4 then told the passengers that there was a way out through the hole at the top of her exit. She began to climb to the hole and told passengers to follow her and to hurry. She found good handholds as she climbed and recalled shards of metal. She was barefooted, and did not know what happened to her shoes. She went through the hole feet-first and was able to step on the side of the airplane, then jump to the ground. She recalled feeling heat and smelling rancid smoke, and that it was getting thicker as she exited the airplane. She saw fire in the mid-section of the airplane, aft of the window exits. There was a passenger behind her. She did not know how many passengers followed her out the hole.

Once outside the airplane she was in ankle-deep water. F/A No. 4 walked around the tail cone. She told passengers to move away from the airplane and up the bank area. Outside the airplane there was heavy rain with marble-sized hail and a cold, strong wind blowing from every direction. F/A No. 4 identified herself as a flight attendant to a group of passengers. She asked if any other crewmembers were around, and was told that there were none. She told the passengers to “huddle up the children.” F/A No. 4 thinks that she was slipping in and out of consciousness. Passengers tried to keep her awake and male passengers covered her with their shirts. It seemed like an hour before rescue came. A fireman carried her to the triage area. She was transported to Baptist Memorial Hospital.

### 2.3 Flight Attendant Training

| <b>Flight Attendant</b> | <b>Date of Birth</b> | <b>Date of Hire</b> | <b>Initial Training Completion</b> | <b>Last Recurrent Training</b> | <b>Aircraft Qualification</b>        |
|-------------------------|----------------------|---------------------|------------------------------------|--------------------------------|--------------------------------------|
| <b>No. 1</b>            | 11/27/68             | 11/07/90            | 11/07/90                           | 10/21/98                       | DC-10, B767, B757, B727, MD-80, F100 |
| <b>No. 2</b>            | 05/26/67             | 06/25/87            | 06/25/87                           | 07/22/98                       | B767, B727, MD-80                    |
| <b>No. 3</b>            | 02/19/69             | 08/12/92            | 08/12/92                           | 03/23/99                       | DC-10, B767, B757, B727, MD-80, F100 |
| <b>No. 4</b>            | 04/09/64             | 05/26/88            | 05/26/88                           | 07/21/98                       | B767, B757, B727, MD-80              |

### 2.3.1 Initial and Recurrent Training Programs

All of the flight attendants were qualified on MD-80 series aircraft. They completed American Airlines initial training, which included instruction in emergency procedures and evacuation drills. In addition, they had successfully completed their most recent annual emergency procedures training (EPT) programs. Flight attendants No. 1, No. 2, and No. 4 attended EPT in 1998. F/A No. 3 attended EPT in 1999. See Exhibit B for excerpts from American Airline's EPT programs for 1998 and 1999. See Exhibit C for excerpts from the American Airlines Safety Manual (Part 1) detailing emergency procedures and evacuation commands for the MD-80 series aircraft.

## 3.0 Passenger Information

### 3.1 Passenger Interviews

The Survival Factors Group interviewed 56 passengers in person or by telephone. Summaries of the interviews appear below. Questionnaires were sent to all surviving passengers. As of October 30, 1999, 109 passenger questionnaires were returned to the NTSB. See Exhibit H for passenger questionnaires.

#### Seat 3B

##### Male, age 42

During landing, there was an electrical storm. The touch down was a "bit rough" and it seemed like they never slowed down. He didn't remember hearing the "thrusters" come on. During impact "things were crashing and striking him." He did not think he ever lost consciousness. He thought he landed on his hands and knees outside the airplane with the seat strapped on his back. He looked over his left shoulder and he could see the airplane and it looked like it was still moving. His seat was still attached to his back. He began to crawl away from the airplane. Within 30 seconds he saw people walking by. He released his seat belt, and got out of the seat. He and another passenger walked over to a group of 20-30 people. Then a storm hit. There was hail, wind, rain, and lightning. Rescuers took about 30 minutes to get to the accident site and fight the fire, then another 30 minutes to tend to the passengers.

#### Seat 3F

##### Male, age 40

During the flight, he observed lightning. It really was not that bumpy considering the weather. They circled Little Rock for about 10 minutes. There were rain and hail during landing. The weather "got really bad" on final descent, during the last several seconds of flight. There was no warning of the crash from the pilot or the flight attendants. The airplane landed "left wing down." It seemed to him that "the anti-lock brakes never came on." They swerved left, then right. The "engine thrust reversers" came on, then they went off. It seemed like there was no friction on the runway, and the airplane started to go sideways. He tightened his seat belt because he thought the airplane was going to roll. He closed his eyes. He reported no problem releasing his seat belt. There was no lighting on the airplane. He went out the "hole in first class." It was "raining and hailing really hard, and lightning." He joined a group of about 40 people near the water. The fire trucks got there and put out the fire. The first team of paramedics arrived about

40 minutes after the crash.

Seat 4F

Male, age 19

As they were landing he could see a lot of lightning off in the distance. He thought they had circled Little Rock a few times. The airplane “fishtailed” before they landed. During landing, it was raining really hard and was foggy. The landing was very “hard.” The airplane bounced, then came down hard again. The airplane swerved to right and left and the pilot was “applying brakes but the airplane was not slowing down.” He saw part of the airplane break off, and a “big chunk in the left side of the airplane tore off.” He saw the passenger seats on the left side of first class “go out the left side of the airplane.” The airplane was still moving when passengers and seats were thrown out. Then, the airplane stopped. He was holding onto his seat as hard as he could. The seat belt and seat worked fine. There was a huge fire approximately 10 rows behind him, and he wanted to get off the airplane because he thought it would explode. He thought his dad was right behind him when he was leaving the airplane, but his dad had been knocked unconscious, so he went back into the airplane and got him. He and his dad walked out to the river. There was a group of people there and they huddled together. It was hailing, raining hard, and there was lightning. Smoke from the burning airplane was blowing towards them for about 3 minutes. After 30-40 minutes, the fire trucks and ambulances came and took them to a building on the airport. He was not injured but had smoke inhalation. His father had a deep cut in the crown of his head.

Seat 5B

Male, age 44

He was originally assigned seat 10B, but moved to 5B. The airplane took off 2 hours late. After they reached cruise altitude, the pilot said he was turning off the seat belt sign. About 30 seconds later, it started getting choppy, and the captain came back on, and said he would be turning the seat belt sign back on. There was a lot of lightning. The airplane was being blown around. The airplane landed hard. He heard the usual thrust of engines. When the brakes were applied, he felt the airplane sliding. The thrust reversers quit, then came back on. He looked out and saw grass. The fuselage was turned, but the airplane was still going straight. He ducked his head down to his knees. The next thing he remembers, he was in the water and weeds. He saw a man seated in a forward right seat help both forward flight attendants get out.

Seat 5E

Male, age 43

He did not notice anything unusual about the flight. The seat belt sign came on several times during the flight. He did not notice much turbulence during descent. When the airplane contacted the ground, it hit harder than any landing he had ever experienced. The airplane was not stopping. The reverse thrusters were ineffectual. He did not hear commands from the flight attendants. The airplane went off the runway and crashed. The structure of the airplane on the left side separated and took passengers and seats with it. After the airplane stopped, he went out a hole on the left side of the first class cabin. There was a lot of black smoke outside the airplane. There was rain, hail, and a lot of lightning. The hail quit a few minutes after he exited. He looked around to find people who needed help. There was a fire in the aft part of the airplane which got bigger over time, but was never really threatening. The paramedics were slow to arrive. He was

transported to St. Vincent's Hospital. He had a cut on his ear that required stitches. He also had bruises, and a cut on his neck.

#### Seat 6E

##### Female, age unknown

About 80 miles out of Little Rock, they ran into "rough areas." The captain asked the flight attendants to be seated. She saw city lights. The landing was smooth at first, then the brakes came on really hard. There was a big crash. She doesn't remember anything after that. She noticed she was the only person in her section. She had trouble getting her seat belt off. She went forward toward an opening but doesn't remember getting out. She was assisted by a male passenger. She tried to run but kept falling. She felt like she was covered with oil. She saw fire coming out of the back end of the airplane, and saw a black trail of smoke. She remembers hail, rain, and thunder. She did not hear crew member commands.

#### Seat 6F

##### Male, age 60

He heard the captain tell the flight attendants to take their seats. He thought that they were coming in too fast. They hit the runway, brakes were applied, and the airplane started skidding. The airplane went to the side. He thought the captain was trying to take off again. He felt a roll action. The airplane stopped and "a door came open." He was struck by luggage during the crash. He "tried to get out of his seat belt and go to the back." He was picked up by the high winds and thrown 10 feet from airplane. He remembers being in a ditch. It was raining very hard, then the rain reduced and the wind picked up. Passengers were huddling together. He saw smoke. He saw lightning and heard thunder.

#### Seat 7B

##### Male, age 49

They were late getting out of DFW because of weather. He heard they were having trouble getting an airplane for the flight. The flight was pretty uneventful. He had "slept some" during the flight, but was awake during approach. He was concerned that they were landing "in the weather." There was a lot of lightning. He did not remember the flight attendants walking through the cabin prior to landing, as is usually done. He did not look at the briefing card, but stated he flies the Super 80 a great deal. He remembered the pilot making an announcement for the flight attendants to prepare for landing. The approach was rocky and unstable. The wings seemed to be rocking 20 degrees, and he did not believe the airplane ever stabilized. He felt one wheel touch down before the other, and that it was a very rough landing. It seemed like they were just floating, with "the feeling of hydroplaning." Every time the pilot applied the brakes, he would lose stability. The airplane was not slowing down. He remembered the pilot applying the brakes two or three times and nothing happened each time. He thought the brakes were applied very hard. There was a sensation like fishtailing. He assumed the brace position and felt the airplane go left. He felt a big crash and they came to an abrupt stop. The lights immediately went off and the airplane was totally black. Light was coming from flames over the left wing. The girl next to him hopped out of her seat immediately. He was slow getting out and wanted to get to his wife who was seated behind him in seat 11E. It was very dark. The partition between first class and coach may have been dislodged. He believed that his seat belt played a significant part in preventing him from being severely injured. He had bruises caused by the seat belt, and

remembered fumbling with it when he was trying to release it. He was concerned about the flames and said they were “going pretty good” over the wing. He could not make himself run. He went about twenty feet away and started yelling for his wife and daughter. He saw them approximately twenty seconds later. They huddled on a little hill a safe distance away from the airplane, in an effort to protect themselves from hail and lightning. He didn’t remember the hail until they huddled together in the group. He had abrasions on his face and saw another man with a dislocated shoulder. It seemed to him like a long time until the first ambulance came. He started yelling for help. Rescue workers had to cross the water to get to them.

#### Seat 7E

##### Male, age 63

He was in the Military Airlift Command for 22 years. He had 3000 hours as a crewmember on C-5’s, but he was not a pilot. He was involved in a crash in Okinawa. He did not suspect anything was wrong during the landing. He did not hear the “reversers.” He felt the brakes being applied 3 times. The airplane was not stopping, so he braced with his feet up against the bulkhead. The ceiling tiles started coming down and things were hitting him in the head. After they stopped, he unbuckled his wife’s and his seat belt, and they got out through a break in the cabin on the left side of first-class. He smelled smoke, but there was no fire in the forward part of the airplane. He helped a man that was “thrown down” in the aisle. His wife fell as she tried to exit, and the man that he had helped jumped over her. He helped his wife to her feet. He and his wife went along a drainage ditch. They saw a group of passengers that were huddled together. There was absolutely no panic. It was hailing, and lightning outside. It was a long time before rescuers got there: maybe 30 – 45 minutes. The passengers were loaded on a bus, and taken to a fire station. He and his wife did not go to a hospital. They went to their own doctor. He thinks his ribs were injured by the arm rests on the seat. He did not see the flight crew or flight attendants after the accident.

#### Seat 7F

##### Female, age 64

The pilot kept the passengers informed of the possibility of turbulence. The seat belt sign went off, then they hit some “chop,” and the seat belt sign came right back on. After the airplane hit the runway, she noticed that it was not slowing down. The cabin was shaking violently all the way down the runway. As they came to a stop, her husband told her to brace. She saw things falling on her husband. When they stopped, her husband told her to get out. She fell on her way out and lost her glasses. They walked away through deep water. There was billowing smoke at first, then it went away. It was 30 – 45 minutes before the fire department came. Nobody got upset with anyone else, they were just helping.

#### Seat 8B

##### Male, age 54

The airplane was delayed at DFW. He began seeing lightning about the time they got to Little Rock. He was in the aisle seat. He saw lightning on both sides of the airplane. He remembered that the wheels touched down, but the airplane did not slow down as he expected. The pilot applied the brakes, and it felt like the airplane was “hydroplaning.” He applied them again and the airplane “hydroplaned.” He remembered two brake applications. He assumed that he was knocked unconscious, but not for very long. When he woke up, he was still in the airplane. He

was on his back with his legs up in the air. He thought his seat had slid under the coat compartment between first-class and coach. He did not remember anything about his seat belt. A man on the airplane wearing a yellow uniform helped pull him from his seat. When he got up, he realized he had chest pains and couldn't breathe. He sat down in seat three because he was having a hard time breathing. The whole left side of the airplane was open. He knew he needed to get out but wanted to catch his breath first. He could see a glow which one of the rescue workers said was a fire. The seats on the right side of first class were still there, but all the seats on the left side were gone. He was put on a backboard and taken off the airplane through the opening in first class. He was taken to the hospital in an ambulance with the first officer. The first officer kept saying that he was sorry that they crashed.

#### Seat 8D

##### Male, age 40

He cinched his seat belt down tight before landing. The landing was very hard. He remembered the brakes being applied and released, and the "reversers" going on and off. The airplane began swerving with each application of brakes or "reversers." The landing gear collapsed. He hit his head on something. When he regained consciousness, he was in the aisle. His ear was cut severely. He suspected that his glasses cut his ear. He did not notice any lights in the airplane after the crash. He went to the flight deck and asked the first officer if he could help. The first officer declined. He exited the airplane through a large hole on the left side of the first-class section. Outside, there was a hard, cool rain falling. He saw a man and woman in a seat outside the airplane. They were badly injured. The man did not want to be moved, so he unbuckled the woman, and assisted her away from the airplane. When the firefighters arrived, they started triage. The fire did not immediately consume the airplane – it took a while to get going. He was taken to a fire station.

#### Seat 9A

##### Male, age 31

The captain made an announcement to prepare for landing. They hit the ground going too fast. During landing, it was raining really hard, and there was a lot of wind. He blacked out right before the impact. He did not remember crawling out. It was raining really hard, and was cold.

#### Seat 9B

##### Female, age 38

The pilot made an announcement to the passengers about a light show outside the airplane. When they landed, the pilot tried to brake, but there was no effect. She thought the airplane would roll into the mud. She braced with her hand against the seat in front of her. There was a sudden stop. She did not remember taking off her seat belt. She remembered being on the floor, facing the aisle. She was soaked with fuel. There was rain, hail, and high winds outside the airplane. The hail was as big as the end of her finger. There was a makeshift triage area. She saw a flight attendant with a compound fracture of the leg, and a man with broken ribs. The rescue took a long time.

### Seat 10A

Male, age 36

The pilot made an announcement to the passengers that the airplane would be on the edge of thunderstorms all the way to Little Rock. There was very heavy cloud cover and light rain as they approached Little Rock. Five minutes before they landed, there was very heavy rain. One mile out, the airplane began to yaw quite a bit. On landing, it felt like the airplane was “right wing down.” The “reversers” came on, then went off, more than once. The nose of the airplane seemed to be about 15 degrees to the right. The airplane went off the runway, then came back on. It was sliding, and not slowing down. The rollout seemed faster than usual. He did not hear anything from the flight attendants. The airplane was sliding and skidding, so he assumed they would go off the runway. The first and second impacts were very close together. There was a loud boom, then the airplane went black. The overhead baggage compartment came down and hit him in the head. It was completely dark in the airplane. The crash impact pushed him forward and to the left. His seat remained intact, and his seat belt held. He unhooked his seat belt and went forward over the seats. There was a passenger in seat 8A who he assumed was dead. He stepped right in the middle of his back. He went out a hole in the first-class section, on the left side. He estimated that the winds outside the airplane were approximately 80 miles per hour. He ran across the swamp, then came back. He went to the captain, but there was nothing he could do for him. He talked to the first officer. He went back into the airplane, but could not open the cockpit door. He went back out, and told the first officer to open his cockpit window. The first officer said he could not. The first officer was swiveled 90 degrees from his usual position. He advised the first officer where the fire was, and that it was not too close. He ran around the outside of the airplane and noted several deceased and injured passengers. It was 20 – 25 minutes before rescue workers arrived. He went back into the cabin 3 or 4 times looking for passengers. Outside the airplane there was strong wind, hail, and close lightning strikes. The rain was so hard that many people lay down in the field and covered their faces. He tried to open the 1R exit from outside the airplane. The handle was already pulled out. He could not open the exit. He was covered in fuel. He did not see any pushing, shoving, or fighting among the passengers. He spent 2 hours out in the field before he was taken away.

### Seat 10B

Male, age 50

On approach to Little Rock, the captain said he had to go around and approach from the Memphis side because of the thunderstorm. The approach was fast and steep. The airplane shuddered just before ground contact. He felt the nose wheel hit the ground, but didn't feel the main gear touch down. He heard the thrust reversers come on. The airplane went to the left, and he heard the brakes. The airplane went off the runway. Something hit the wing on left side, and he saw sparks. The airplane went back on the runway. The pilots were trying to get control of the airplane. He felt the brakes come on, but the airplane was not slowing. The thrust reversers came on again. He saw grass out the window. The ceiling started to cave in at the front of the airplane. Luggage racks came off on the left side. All of a sudden, it stopped. An overhead rack came down and hit him on the head, and the airplane went completely dark. Halfway down the runway, a flight attendant stood in the aisle in first class and yelled for passengers to brace themselves. The passengers started yelling. A man next to him got up and went over the seat. Someone stepped on his arm and elbow while it was on the armrest. The man said he was sorry but ran right out of the airplane. He could smell fuel. He crawled down the aisle. A woman was



asking for help, so he asked where she was. She was under a luggage bin. He picked it up and she was lying on the floor, face down. She could not get up, so he moved the bin. He grabbed her arm and they crawled out of the airplane together through a big hole in first class. He cut his hand on the wreckage. They moved to a pond that was about 4 feet deep. It began raining and hailing. Fire trucks showed up in 5 -10 minutes, but ambulances took longer. He was tagged as a “walking wounded” and told where to go to a bus. The bus drove off without him. His leg was bleeding.

#### Seat 10E

##### Male, age 29

His wife was seated in 10F. He listened to the safety briefing and read the passenger information card. The pilot had the seat belt sign on the whole flight. There was a lot of lightning and massive turbulence, which got worse as they got closer to Little Rock. The wings of the airplane were rocking. After they touched down, he waited for the brakes to be applied, but they never were. The airplane swung to the right, then came back straight in a “fishtailing” motion. The speed of the airplane seemed to increase. He heard the “reverse thrusters” go on and off. He braced against the arm rests. There was a big crash. Something in the cabin fell from above and behind, striking him. He received a big gash on the top of his head and a separated left shoulder. He remained conscious. The oxygen masks did not fall. He did not see any lights in the airplane, and did not hear any instructions from the flight attendants. He had his seat belt on “pretty tightly,” and sustained bruises on his left side. He thinks that his seat stayed attached to the floor. His wife climbed over the seat to the aisle. He got up and followed her. It was too dark in the cabin to see anything. He and his wife left the airplane through a big hole in the first-class section on the left side. He sustained cuts and bruises on his feet and ankles. After he and his wife left the airplane they ran toward the river. Very severe weather began. There was rain, hail, wind, and lightning. He was afraid that they would be struck by the lightning. Other passengers were huddled together. People were getting frantic waiting for help. It was about 15 minutes after the crash before he saw lights from rescue trucks, then another 15 minutes before they got to the scene. They got on a bus and were taken to a firehouse on the airport.

#### Seat 10F

##### Female, age 26

The airplane was delayed at DFW, and the boarding was “super-rushed.” She paid attention to the safety briefing somewhat, and read the passenger information card. Halfway to Little Rock, the captain said he was going to turn off the seat belt sign. He turned it back on within two minutes. There was some turbulence on approach. After they landed, the airplane was “fishtailing,” and she thought that it was out of control. She was wearing her seat belt “medium-tight,” and it restrained her. She had bruises from the seat belt. She didn’t remember anything about the condition of her seat. After the airplane crashed, it got really dark. It was pitch black in the cabin – there were no lights on. She immediately got up and began pushing her husband, who was “just sitting there.” The passenger in 10D had already left. When she stood up, she heard a man say, “Help me,” but she kept going. She never saw anyone else the entire time she was leaving the airplane. She went over 3 - 4 seat rows forward of her seat before going to the aisle. She went out the left side of the airplane. She ran away from the airplane through water. The weather was terrible. There was rain, hail, and lightning. The smoke from the airplane was choking her and her husband at first, then the wind blew it away. She was covered with fuel. A

couple of other passengers were getting hysterical. It took about 45 minutes for the rescue trucks to come.

#### Seat 11A

##### Female, age 42

She boarded the airplane at DFW. She listened to the preflight briefing. She did not look at the briefing card as she had been on the MD-80 before. During the flight there was not much turbulence, but she watched the “light show” outside. The captain told the flight attendants to take their seats. The seat belt sign was on. She stated that when the landing gear came down, she felt a heavy vibration “like a tremor.” The approach was turbulent, but it got better as they approached the runway. After landing, the brakes were applied. It appeared the pilots lost control of the airplane. The airplane seemed to be pushed by a gust of wind from the tail. They were turning and skidding rather than going straight. There was noise from the wheels going through water. The pilot applied the brakes again and the airplane seemed to turn. She looked out the window, and saw a large amount of water on the runway. She noticed the airplane was headed for a grassy area which was filled with hail and water. She felt braking action twice. She mentally noted her closest exit. She braced herself, but did not put her head down. She hit her head and the cabin lights went out. She lost consciousness and was roused by shuffling feet. The passenger in 11B tried to push the debris (overhead bins and luggage) off the passengers in row 11. Her seat belt remained fastened and was easily unfastened. Her seat remained intact. The row of seats directly in front of her did not remain intact. She heard a woman in the back of the airplane yelling. The cabin was filled with smoke. She went forward and walked out an opening in first class. She moved away from the airplane. There was hail, rain and high wind outside the airplane. One of the engines was on fire. She walked toward the river. She saw groups of people huddled together. She had difficulty breathing due to the smoke. She and her traveling companion walked toward the runway, climbed up the rocks and went over a chain-link fence. At the top of the hill, there was a man in a white vehicle. They got in the back seat of the vehicle. The storm went away quickly and it got warmer. She could hear the rescue vehicles, but did not see them. The driver of the vehicle said he had to get to the terminal so he could get some buses dispatched to the accident scene. The driver took them to the terminal, and then to a fire station.

#### Seat 11B

##### Male, age 56

The airplane left DFW approximately two hours late. He was traveling with a business companion seated in seat 11A. He thought a flight attendant conducted a safety demonstration near his seat, but he did not listen intently. The flight to Little Rock was uneventful. The pilot announced they would be coming in from a different direction than expected. The passenger recalled saying to the woman in seat 11A that it was 2342 hours. As they got closer to the runway, two or three minutes out, the winds picked up. He reported seeing little rain spots on the cabin window. As they got closer to landing, the airplane flew through a fairly large rain shower. At touchdown, it was as if something had slammed the airplane down and they came up off the runway again. He heard the “reverse thrusters” for a short time and then they went off. He did not feel the normal braking slowdown. They made a direction change off onto the grass. He heard the “reverse thrusters” again and then felt another direction change. The airplane went sideways, and collided with something. Seconds later, there was a major collision. He and his travelling companion were knocked out. When they regained consciousness, they were covered

with debris. Luggage bins were pinning them in. His seat belt was fastened and the seat was intact. He had been pushed forward toward the seat in front of them. He got out of his seat and moved forward two seat rows on the left and exited the airplane through a hole in the fuselage. The cabin was very smoky and he did not notice any other passengers. Hydraulic fluid or fuel had spilled on him. He stepped out on some debris and solid ground. He and his travelling companion crossed a body of water and walked to a dirt road 200 feet away. When they got to the road he saw the runway behind him and headed toward a shack. It was hailing, raining heavily and the wind was blowing hard. They climbed up the cobble onto to the runway. As they got to the top, they flagged down a small, white jeep and got in the back seat. From the jeep they watched as the airplane burned. They drove to another area where the driver dispatched buses to the accident site before driving to the fire station on the airport.

#### Seat 11E

##### Female, age 34

Her daughter, age 14, was in seat 11F. Her husband was seated in 7B. She listened to the flight attendant safety briefing and looked at the briefing card. She knew that her closest exit was behind her. It was a normal ride with a little bit of turbulence. As they prepared for landing, she saw lightning. The weather outside the airplane on descent was raining, very windy, and lightning. The airplane rocked the entire time during the approach. The landing was unusually hard. She thought they were on one wheel, then another, rocking back and forth. She heard the brakes come on and the noise of brakes skidding. The airplane was going very fast, but she never felt any deceleration. There were two bumps and then the crash. She immediately smelled fuel and smoke. The smoke did not fill the airplane at this point. Their seats jerked over to the left with a jolt, as though the seat flipped up and went to the side. The entire left side of her body was bruised after the accident. The passenger from seat 11D was underneath her. She caught her foot under the seat in front of her (10E) and lost her shoe. Her seat belt stayed intact and she had no difficulty unfastening it. Her daughter in seat 11F had difficulty opening her seat belt, so she did it for her without problems. There were no other passengers in the aisle, and there were no sounds. The cabin was hazy, not smoky. She, her daughter, and the man in 11D held hands and moved to the aisle. They walked forward, toward the light, and out through an opening in first class. She saw the body of a man face down in what she thought was her husband's seat. He wasn't moving or talking. They attempted to remove the seat on top of him. The man from seat 11D urged them to get out. She realized it was not her husband. He was waiting just outside of the opening in first class. She turned around and saw the airplane on fire and started running through a marsh to a pond area. As they were leaving the airplane, it was hailing miserably, the wind was very bad, and there was lightning all around them. She could see that the airplane was wrapped around something metal. She could not see the airport and did not know where they were. There were a lot of injured people huddling together to stay warm. It was approximately twenty minutes before the first fire truck arrived. The group yelled for help. Five to ten minutes later, rescuers asked who was hurt. They formed a line and hooked on to the person in front of them, walking through the water to a bus. Passengers were taken to the fire station.

#### Seat 12F

##### Male, age 39

He didn't remember if the seat belt sign ever went off, but it was a smooth flight. He could see lightning the whole time. The pilot mentioned a "light show." The airplane was buffeted during

descent into Little Rock. When the lightning flashed, he saw a “wall cloud” getting closer. They landed in terrible weather, and the airplane bounced “all over the place.” The airplane hit hard and fast, and did not seem to be under control. The airplane bounced. The “reverse thrusters” came on then went off. He heard the squeaking of brakes. The “reversers” came back on, then went off. The airplane went off the side the runway a couple of times. It felt like they were accelerating right before they went off the runway. There was one second of silence, then everybody started screaming. There was a big black cloud and an orange glow behind him. His seat broke loose and slid back into the man behind him. He saw a jumble of seats and parts in front of him. He was sprayed with jet fuel. He started pulling the airplane trim and insulation off the side wall to his right, and saw a fuselage fracture. He undid his seat belt, and slid out the fracture. His pants were snagged on the jagged metal. He hung there for 5 – 10 seconds, then fell to the ground. Other passengers began coming out behind him. They were landing on him as he lay on the ground. The wind and hail were pounding him. The lightning was very close. He hid behind a bale of hay for about ten minutes until the weather let up. About that time, the fire department showed up. The fire got bigger over time. He observed a few people get out the same crack in the fuselage that he used.

#### Seat 13A

##### Female, age 21

She did not watch the safety demonstration, and stated that she had flown so often that she didn't look at the safety card either. The flight had a little bit of turbulence. The pilot mentioned the lightning show on the left side of the airplane. The lightning was frequent. As soon as the airplane hit the runway she knew something was wrong. There seemed to be no control of the airplane. They did not slow down, and they veered to the right and left, three times. The third time, she saw that the airplane was off the runway and into the grass. The crash seemed to be in two parts. The first part shook everything up, and the second part broke up the airplane. After the airplane came to a stop all the lights were off. She did not hear the flight attendants shout commands. She did not brace and was glad that she had not braced because the oxygen panel that fell above her seat would have hit her in the head. She injured her left elbow. She heard people screaming and she saw fire behind her. She had no problems getting her seat belt off. She was helping/pushing the woman up from seat 13B. They went to the front of the airplane. The airplane was “really tilted.” Someone was shouting, “Go this way. Go this way.” There was a lot of debris outside of the big hole from which they exited. She saw an airplane seat 10-20 feet away from the airplane. There was a group of people who headed out the same exit that she did. It was so dark that she could not see if the other passengers were having trouble getting out of airplane. She saw a passenger running from the airplane with his seat still attached to him. Outside the airplane it was hailing, and there were strong winds and black smoke. The fire stayed toward the rear of the airplane. It took 30 – 45 minutes for rescuers to arrive. She could not see the airport, and thought no one would find them.

#### Seat 13D

##### Male, age 54

He did not pay attention to the safety briefing, nor did he look at the briefing card. The captain informed the passengers of turbulence and turned the seat belt sign back on. It was bumpy for awhile. As they descended he noticed moisture on the windows. The airplane was lurching to the left and right during the approach and the captain made corrections to control the airplane. The

airplane landed hard, bounced, then stayed on the runway. The wings were dipping back and forth. He felt the brakes and heard the “reverse thrusters.” The airplane slid left then right. He saw hail through the landing lights. He felt the “reverse thrusters” a second time. The airplane was fishtailing. He had a feeling of going sideways. He ducked down with his head on his knees. Something heavy landed on top of his right shoulder. His right shoulder was broken in the crash. He got out through the crack on the right side of the airplane at row 11 or 12. He saw the crack when lightning illuminated the area. Seats had broken and made a pathway on the right side next to the fuselage. There was luggage and trash on the floor. He crawled along the pathway to the crack. Another passenger got her leg stuck in the crack. Other passengers were going over him to get out of the airplane. The passengers were yelling at him to get out of the way. He freed the stuck passenger’s knee, then dropped her out of the airplane. He turned sideways to ease out of the airplane. Approximately 15 people evacuated through the crack before he did, and several more passengers evacuated after he did. Another passenger got stuck in the crack and he assisted her out. He smelled smoke, and saw flames coming out of the rear of the airplane. He saw black smoke intensifying. He headed for bales of hay and directed passengers to follow. It was hailing tremendously and the size of the hail was increasing. The wind slacked off. He got a cell phone from another passenger, and called 911 because it seemed like no rescue was coming.

#### Seat 13E

Male, age 38

The landing was harder than normal. The airplane tried to brake a number of times once it was on the ground. He did not hear any commands. After the crash, he noticed the airplane split about row 12. He tried to release his seat belt, but had trouble. He eventually got it undone. He saw people going out the split in the fuselage. There were flames behind him, and he went out, too. The passengers were calm. They were not trying to get ahead of each other. He ran away from the airplane to a group of other passengers. The weather outside was storming with high winds and hail.

#### Seat 14B

Female, age 32

Twenty to twenty-five minutes into the flight, it started getting bumpy and lasted the whole way to Little Rock. As they got closer, the airplane was surrounded by lightning. After landing, she could hear the thrust reverser noise, but the airplane did not slow down. The airplane started sliding sideways then immediately stopped. There were no lights. She saw an opening in front of her on the left side of airplane. There was a fire behind her. The lady in front of her was having a hard time in stocking feet. She got out through a hole in the side of the airplane then climbed down a grid-like object, then jumped. She got away from the airplane and went down to the river. While she was trying to get out of the airplane, there were wires in the way that she had to try and climb through. She did not remember any luggage in her way. She helped a lady in seat 14A who had a bad ankle. She saw a couple of people having trouble getting out of the airplane. She was wearing sandals that were very slippery. She lost one sandal on the airplane and the other out in the field. Her seat belt was fastened tightly and it worked well. It hailed and rained on them. It was about 20 minutes before they saw the lights of the fire trucks.

### Seat 14E

Female, age 54

She said she looked at the briefing card and watched the flight attendant do the safety demonstration. When they landed at Little Rock, the pilot hit his brakes, then let off, then hit the brakes again. The flight attendant said, "Brace yourselves." Her seat belt remained attached during impact. She saw fire in back of her. When the airplane came to a stop the row of seats in front of her was pushed up. She went out a gash in the right side of the airplane. There was a man sitting by the gash telling people to come out this way. A passenger got a leg caught in the gash and passengers helped the person out. As they got out, they heard a loud clap of thunder. It started raining, hailing and lightning. They moved toward a bail of hay. She heard a passenger ask if anyone had a cell phone to call 911. Her sister was seated in seat 8E.

### Seat 16D

Female, age 58

She slept most of the flight. There was rough weather going into Little Rock. It was hailing, and storming, and there were many lightning strikes. She fastened her seat belt tightly and she told the two girls next to her to tighten theirs. They hit real hard, then hit again. She put her head down and covered her head with her hands. The pilot applied the thrust reversers twice, and then the airplane went off the runway. It was extremely rough ground. She heard metal screeching and people screaming. She saw things flying overhead. Her shoes came off, and she hit her ankle on the seat in front of her. She saw fire behind her. Her coat got caught on a seat so she took it off. She put the corner of her shirt over her mouth. A woman was caught in the crack trying to get out of the airplane and a man was trying to catch her. She helped push the women out, and she went out behind her. She started running across the field to get away from the airplane. She helped another passenger who was injured. There was lightning, so she and other passengers got down around a hay bale. About 30 minutes later, the fire trucks arrived. Then the ambulances came. Buses arrived and took the passengers to a hangar. A doctor was walking around checking passengers' injuries. Her sister-in-law got out the left side of the airplane.

### Seat 16E

Female, age 10

She did not look at the safety briefing card. She watched the safety demonstration. It was bumpy and stormy outside the airplane. When the airplane landed it was really bumpy, and the airplane did not slow down. She had no problems releasing her seat belt. The oxygen masks dropped. She tried to grab one, but couldn't find it. People in front of her were lined up, and it took a while to get out. There was fire behind her. Everything inside the airplane was "messed up." She exited the airplane through a crack on the right side. Her sister in seat 16F came out behind her. There was a man outside the airplane that helped her down. She ran from the airplane out into a field. Hail was hitting her, and she had trouble seeing.

### Seat 16F

Female, age 13

She remembers the flight attendant doing the safety demonstration, and talking about oxygen, the briefing card, and flotation devices. There was turbulence during the whole flight. The pilot commented on the lightning. The touchdown was really hard. The airplane slid and went to the

left. Fire erupted behind and beneath her seat. She released her seat belt and grabbed an oxygen mask. She took the oxygen mask because she remembered the pre-flight safety briefing and the instruction to don the mask if it was presented. There was nothing coming out of the mask, so she dropped it and left her seat. There was a big crack in the right side of the airplane where people were exiting. She stood in line waiting to get to the crack. People were climbing over seats and trying to push their way out. No one was helping her. She and her sister were the last passengers out of the airplane. People outside the airplane helped her to the ground. It was windy outside, with rain, hail, and lightning. The back of the airplane was in flames. She said that it took awhile for help to arrive.

#### Seat 17E

##### Male, age 39

After the accident, he and his seatmates realized they needed to get out of the airplane. One of his seatmates jumped out of the airplane through a fuselage break behind their seat. He thought that this was a bad idea because of the fire, so he and the other seatmate went forward. He retrieved the seatmate's purse, at her request. They moved forward in the cabin, and found a crack in the fuselage on the right side. There were two people at the crack, waiting to go out. One of them was a large woman who was having trouble fitting through the opening. He did not think she could ever get through, so he told her to get out of the way. She went forward in the cabin. Before he could get out, he heard a child crying, but he could not see where the child was. During a lightning flash, he saw a child standing aft of him in the cabin. He encouraged her to come to the crack and get out. The next lightning flash, he saw her again, further aft in the airplane. He went out through the crack. He lay down in the field because of the storm that was going on. It was raining, hailing, and blowing very hard.

#### Seat 19E

##### Female, age 64

She and her husband were late for the flight and were the last two passengers to board. She was instructed by a flight attendant to take the first empty seat she saw. She and her husband were not seated together. She entered the airplane in front of her husband and walked back until she found a seat between two women. She took a seat and went to sleep. She did not remember the safety briefing, and did not look at the information card. As the airplane approached Little Rock, the pilot made an announcement for passengers to make sure their seat belts were fastened, because there was going to be a little rough weather ahead. It was raining hard right before the airplane landed. The airplane bounced when it landed. There was a lot of water on the runway. The airplane slid on the runway, and she heard or felt the pilot hit the brakes once or twice. She put her head down. The airplane went off the runway then came back on to the runway. The airplane hit something and there was a crash. When the airplane stopped, she got up and exited. She did not remember how she got out. The next thing she knew, she was lying on the ground outside the airplane. She stood up and ran to a haystack. There were 12 to 15 passengers there. It was raining and blowing and hailing. It estimates that it took 45 minutes for help to arrive. A fireman put her on a stretcher and she was taken to the hospital.

#### Seat 19F

##### Female, age 34

The flight to Little Rock was delayed in DFW for "quite some time." She watched the safety

briefing, but did not read the briefing card. The airplane took off and the ride was good. She took a nap. About halfway through the flight, she saw rain and lightning. When the airplane landed, it bounced back up in the air twice. The airplane swerved and bounced a third time. The airplane crashed. Fire erupted, and she saw an opening to the right of her. She unfastened her seat belt, and dove towards the opening to escape the fire. The passengers in front of her went forward. She put mud on her hair and face to cool down. She did not see anyone come out behind her. She heard people screaming and moaning. It was windy and hailing. There was a lot of lightning. She saw a light up on a hill. She started walking along the side of the airplane, and heard passengers calling to get people out. She ran down a hill. The fire department arrived about 20 minutes after the accident and put out the fire. A few of the rescue workers came over to see how the passengers were doing. She told them she was burned. She was one of the last ones to leave the accident site. She was taken to a hospital.

#### Seat 21A

##### Male, age unknown

At DFW, the gate agents said to board as quickly as possible. He was seated in the left emergency exit in the middle of the airplane. He had a conversation with a flight attendant while he stowed his baggage. She indicated that the flight attendants were tired. He read the safety instruction card and the placard on the window because he knew he was in an exit row. He did not remember a safety demonstration by the flight attendants. Once they got to altitude, the pilot turned off the seat belt sign, then turned it back on again. The pilot said there would be bumpy air ahead. The pilot said to look at the light show out the left side of the airplane. The flight attendants began to prepare for arrival. The weather got worse as they approached Little Rock. It was bumpy while the airplane descended. The airplane went through a very dark cloud. There was a big sigh of relief from the passengers when the airplane landed. The airplane was going incredibly fast and did not slow down. The airplane seemed to be out of control, and ran off the runway. He heard a flight attendant tell the passengers to “brace.” The oxygen masks fell. He saw flames and fire, and felt a surge of heat. The fire was a row or two in front of him. He tried to open the exit, but could not. He thought it must be jammed. Another passenger helped, and it finally opened. There was fire outside the exit, and the wing was gone. He went out an exit on the right side of the airplane directly across from his seat. Someone was helping people out the exits on the right side. People were getting out quickly. There was no hysteria. He ran away from the airplane, fearing an explosion. The weather was terrible with rain, strong wind, and hail. He said that it took a long time for emergency vehicles to arrive. The rescue workers could not drive over to the passengers’ location because of the marshy conditions. The passengers walked to them.

#### Seat 21D

##### Male, age 42

Someone asked him if he was willing to sit in an exit row. When the airplane landed, it “came down really hard” and bounced. There was no feeling that the airplane was slowing down. The engine “reversers” came on. It did not feel like the pilot was attempting to “go around.” The wheels were shuddering. The airplane crashed. Pieces of airplane trim fell from overhead, but no luggage or overhead bin doors fell. There were flames around the ceiling, on the right side. The seat in front of him came loose. He did not see any airplane lights. He went around to the exit behind him. He did not know why he did not use the exit in his row. The passengers in the row



behind him had trouble opening the exit. He reached into the “pocket where the handle is,” and opened the exit. He tried to throw the exit out, but it hit something, so he dropped it inside the airplane. There was some webbing hanging down from the exit frame (two pieces, about three inches wide, that made a “U” at the top of the exit). He did not see any other exits open. He exited, and the wing was “like ice.” There was torrential rain and hail. He stood on the wing, holding the webbing, and yelled for people to get out of the airplane. He was pulling them through the exit. Many of the passengers slipped or tripped at the opening. The exit plug was in the way. He was handed a child, and he passed it to another person. The exit flow was smooth. A passenger tripped and slowed the flow. He saw someone climb over a seat. He helped pull a man clutching a briefcase through the exit. The man was like “dead weight.” There was a lull in the line of people coming through, so he reached in and pulled the exit plug out. He thought it would make it easier for passengers to get out quickly. Although, the flames were not at the exit area, the fire illuminated the inside of the airplane. When he saw no one else coming out, he stuck his head in the exit and yelled, “Is anybody else in there?” three times. Another passenger (he recognized the voice as the man from seat 27E), still inside the airplane, said, “That’s everyone – that’s all.” He turned and stepped down the aft part of the wing toward the engine. The wind blew his glasses off. He saw two men who were trying to move the man with the briefcase away from the airplane. He found one of his daughters on the other side of the airplane. She had gone out the left side of the airplane at row 22. She was badly burned. His other two daughters exited on the right. He helped drag a man with a broken leg away from the airplane. He saw a fire truck at the end of the runway, and a fireman came down the hill. He thought that the fire trucks blocked the road and prevented ambulances from getting to the scene. Passengers were loaded on buses and taken away.

#### Seat 21F

##### Male, age 74

The airplane was late leaving DFW. A flight attendant talked to him before departure, and briefed him on exit operation. He looked at the safety briefing card. He remembered a picture on the card that showed how to open the door. He watched the briefing. The flight was uneventful, but a little rough. The pilot pointed out lightning on the left side of the airplane. The airplane went into a terrible-looking cloud. The rain was horizontal. When the airplane landed, he saw white strips on the runway. It seemed to him that the pilot was not in control of the airplane because it was wavering from side to side. The airplane crashed, and instantly, there was fire in front and to the left of him at a forty-five degree angle. He was not burned. He does not remember getting out of his seat belt. He tried to open the exit next to him, but it would not budge. He operated the handle, but the exit was jammed. He pulled on it and tried to lift it up. He did not notice if the exits on the other side were open. The cabin was very smoky. Someone reached in from above him and opened the exit. Several people had already gone out before he exited. He walked out on the wing and jumped about two feet down to the ground. The rain, wind, hail, and lightning were horrible, and a lightning bolt hit the airplane. The wind was out of the north. The passengers joked that they had gotten out of the crashed airplane only to die in the rain and lightning. There were 15 or 20 people outside the airplane by the time he exited. The emergency response time was slow. Once they arrived, they were great. There was a body of water between the passengers and the rescue trucks. They walked through the water and got on a bus. He did not see anyone who was critically injured or dead, and most of the passengers in his

group were not injured. He was taken to a fire station on the airport. He told the rescue workers that he would help with the triage. There was only one company employee at the fire station.

.....  
Seat 22A

Male, age 42

He did not look at the briefing card or watch the safety demonstration. He knew that he was in an exit row because of the extra leg room. He went to sleep right after the airplane took off. It was a bumpy flight. He heard the pilot say that he was making his final descent. There was a lot of lightning outside the airplane. As they were descending, the rain became denser and there was some turbulence. It was a relief when they landed, but almost immediately he thought that something was wrong because there was no sensation of slowing down. He felt the crew “putting on the brakes,” and heard a sound like “car brakes.” The airplane “fishtailed.” All of a sudden, they were off the runway, and there was a sudden stop. His seat and seat belt remained intact. There was indirect light in the cabin, but he did not remember seeing any lighting in the cabin. He did not hear commands from the flight attendants. There was a fire right outside his window. The woman passenger next to him prompted him to get the exit open. He had difficulty at first because he had not released his seat belt, and could not reach the exit handle. As he reached the handle, the door seemed to pop out easily and quickly. He did not know what happened to the exit plug after he removed it. He stated that he was out of the airplane in “less than a minute.” He jumped through fire as he exited, and he did not know that the wing was gone. He knew it was important to get out of the exit so others could get out behind him. He jumped out of the airplane and felt the heat, but he did not get burned. When he landed on the ground outside the airplane, he hit his head, knocked his glasses off, and cut his forehead. He was concerned that the airplane was going to blow up, so he wanted to get away. He turned back to help people get out. He was grabbing their hands and helping them out of the airplane. The smoke was getting thicker. It was difficult to see because of the smoke, hail, and wind, and because he had lost his glasses. He thought a lot of people came out the exits on the left side of the airplane. He moved away from the airplane and helped a young girl. The smoke was so bad, he had to lie down to breathe. The hail subsided, the wind switched direction, and the smoke became less severe. He went back toward the airplane and sat with an elderly woman. A man with a cell phone called for help. The firefighters arrived and told the group of passengers that the pilot was dead and the first officer was still on the airplane. There were many paramedics that responded, but not enough to carry everyone to triage.

Seat 22D

Male, age 49

He flies a lot so he did not pay particular attention to the safety demonstration. He did not look at the briefing card. There was nothing unusual about the flight except that coming into Little Rock, the airplane was buffeted more than normal. The captain made an announcement and said they were going to go in a different direction. The airplane came in very fast, with the wings rocking, and hit the runway very hard. It felt like the brakes and “thrust reversers” came on and then they went off. It felt like the airplane was slowing down. A big gust of wind blew the airplane to the left. He thought that the pilot was attempting to “go around.” Then, there was an impact. He was thrown forward and to the left. He hit the armrests and bruised his ribs. He heard crunching metal and saw fire rolling across the floor. The airplane stopped. He was focused on what to do, and told the man in the “F” seat to open the exit. The man in the “F” seat got up and began to

grapple with the exit. The passenger in the “F” seat pulled it in, and set it on the seats. He did not remember seeing any other open exits when he exited. The airplane was on fire. He jumped out onto the wing and fell into a swamp. He lost his glasses. He ran about 20 yards away. It was raining hard, with hail, and close lightning strikes. He lay down in the tall grass and pulled it over his head for protection. He watched the airplane burn. He stayed there until the rain subsided – about 5 to 10 minutes. He got up at about the time that the pumper trucks arrived. He saw people coming out of both the front and aft over wing exits on the right side. The fire trucks came and started spraying the airplane. The paramedics put an old man with a briefcase on a backboard. After 45 minutes to an hour, he was transported by bus.

#### Seat 22F

##### Male, age unknown

He did not read the briefing card. A flight attendant said she was tired, and seemed stressed. She said she had been flying 13 hours already, and had “another leg to fly.” The beginning of the flight was smooth. As they came into Little Rock there was some turbulence, and the captain made an announcement to fasten seat belts. The descent seemed too fast to him. The airplane hit the ground hard and fast. It went back up in the air momentarily. There was no squeaking of tires on the runway, just a swishing sound. The airplane skipped down the runway. He felt intense deceleration forces and a lot of shaking. He went into a “crash position.” There was a lot of screaming. After the crash, everything in the airplane looked “red” and he could smell smoke. The passenger on the aisle told him to open the emergency exit. He had not been told specifically that he was in an exit row, and did not realize it until the crash. He had never opened an emergency door before. He looked at the exit and saw the word “pull” on the handle. He assumed the door would open outward, so people could get out. He unbuckled his seat belt and pulled on the lever, then hit the door hard with his shoulder from a crouching position. He pulled on the door and “ripped the top part of some sort of hinge.” The door opened, and the exit hatch fell in his lap. He put the hatch on the floor. His brother went out the exit, then he climbed out. He put one foot on the wing, and the next thing he knew, he was standing in a field. He did not know how many people came out behind him. There was lightning and rain outside. It looked to him like the whole airplane was on fire. He was afraid that the airplane would explode. He ran from the airplane through a creek that was waist deep, then ran up small hill. There was a shift in the wind and rain, and a big cloud of smoke surrounded him. He, his brother, and another man were helping a small girl with a compound fracture of her arm. The smoke got worse, so they began breathing through their shirts. The wind shifted again and it was so strong it blew people down. The clouds were making a swirling motion. After a few minutes, the rain and hail subsided, but the thunder continued to shake the ground. It seemed like it took forty-five minutes for fire trucks to arrive. The firefighters took thirty minutes to put out the fire. The firemen were working as hard as they could. He said that there about nine or ten firefighters. He helped a rescuer carry a man on a backboard.

#### Seat 23A

##### Male, age 65

Prior to landing, a flight attendant was picking up cups. There was lightning and thunderstorms outside. The airplane hit the ground but he did not hear the “usual sounds.” The airplane started shaking, and he felt it turn. People were screaming. There was “hysteria” in the cabin. He did not hear commands from the crew. He did not see any lighting on inside the airplane. Everybody

“went for the left hatch.” When the left over wing exit was opened, smoke and fire entered the cabin. The men on the right side had a hard time trying to open the right over wing exit. He was one of the people that got the right over wing exit open. When the exit opened, it fell out, and he and two or three other passengers fell out with it. He went back for his wife, who had been seated in 23B, and helped her out. He thought the airplane would blow up, so he ran to the river. There was a lot of lightning. It took about 30 minutes for help to arrive. He didn’t remember anything about his seat belt. There was an old man lying in the aisle during the evacuation, and people were stepping on him as they exited. He did not see any one go out either of the left overwing exits. He and his wife went out the right rear over wing exit.

#### Seat 23B

##### Female, age 62

Her husband was in seat 23A. After the crash, the man in front of her tried to open the over wing exit, but had trouble doing so. It was dark in the airplane and there was smoke. She does not remember which exit she used to get out of the airplane, but her husband helped her (her husband indicated that she exited through the right rear over wing exit). She was afraid to go out the exit because it was so high. There were a lot of people behind her and they were shoving. The weather was very bad outside of the airplane. There was heavy rain, wind, and hail. She was not sure if the flight attendants shouted commands. She was helped by other passengers after she got out of the airplane.

#### Seat 23D

##### Male, age 80

He did not look at seatback briefing card but he did watch the flight attendant demonstration. There was choppy weather coming out of DFW. Just prior to landing there was lightning. The landing was fairly smooth. When the airplane touched down, “rocks began to fly.” The airplane hit something, and things began to “fly around the cabin.” The back of his seat was twisted a quarter of the way around. His seat belt was fastened and he remembers undoing it without difficulty. He fell to the floor and could not get up. He heard someone say, “Get up, get out.” He thought his leg was broken, so he told them that he couldn’t move. There was “sheet metal that looked like overhead bins” covering 1/3 of his legs. Other passengers were passing by him on the left side. No one stepped on him. Two men dragged him out of the airplane. He saw fire at the fuselage break in front of him. He saw adults and children leaving the airplane. He did not see smoke and had no difficulty breathing. He estimated that there were five inches of rain on the ground, and it was raining hard. The men lay him on a road. He stayed there 30 minutes more before being rescued, and then another 30 or 45 minutes waiting for equipment to move him. A man took off his shirt and held it over his face to keep the rain off of him. The stretchers came and they boarded him on a truck. He remembered that he kept his briefcase, camera and phone, but did not know what happened to his billfold.

#### Seat 24A

##### Male, age 63

He and his wife ran to catch the flight. The gate agent had already closed the door, but opened it and let them in. The gate agent told them to take the first available seat. He sat in 24A. His wife was closer to the front of the airplane. The flight was uneventful so he tried to sleep. The pilot came on the P.A system and said there was a “light show” on the left side of the airplane. As the

airplane was preparing to land, he looked out the window and saw rain crossing the landing lights. He did not feel any turbulence. The touchdown was hard, but not surprisingly so. He heard the “thrusters” come on and off and thought they came on again, but not as loud. He believed the pilot was “feathering” the engines. He did not feel any significant deceleration. The airplane was rolling, but not losing speed. He heard some rumbling noises and people became alarmed. The airplane slid to a stop. During the slide, he saw debris flying through the cabin and a wall of fire a few rows forward of his seat. He was not aware of an impact. A man opened the left over wing exit which was a couple of rows in front of him, and he saw flames enter the cabin. The passenger who opened the exit went out the exit, but no one else used it because of the flames. Fire entered the cabin through the opened left exit. There was no way to go out the left over wing exit without jumping through fire. Another man opened the right over wing exit, and people started exiting the airplane through it. There was a lot of noise. One young woman was climbing over the seats and trying to push ahead of other passengers, and he heard someone say “Don’t do that.” He stated that was the only instance of “somebody not being respectful of others.” He had no trouble unfastening his seat belt. When he got up, there was a man lying in the aisle blocking people from getting to the exit. “Everyone” started going over the seats at that point. He thought that the man in the aisle had a broken leg. Another man helped him lift the man from the aisle, and they pushed the man out through the right window exit. The man had a briefcase and would not put it down. That made it difficult to pick him up. No one caught him when they put him through the exit, so he hit the wing and then slid off onto the ground. After the aisle was clear, everyone else could get out in an orderly fashion. The smoke was very heavy, and people were bent over to avoid it. There was no panic. No one was yelling or screaming, and no one climbed over him or pushed him. By the time he exited, flames were coming in the cabin and the level of the smoke filled the cabin half way down from the ceiling. He had to lean over to keep from inhaling heavy smoke. He did not hear anyone give instructions to prepare for the crash and he did not see a crewmember following the accident. He exited the right over wing exit nearest to the tail. Right after the crash, the cabin was lit up by the fire. The fire remained forward of the over wing exits for most of the evacuation, then began to come aft. As the last few people exited, the fire was near the over wing exits, and the cabin just forward of the exits was burning. One lady went out with a small musical instrument. She was climbing over seats with it. After he exited the airplane, he stood at the over wing exit with another passenger until the last person came out. The other man leaned in and asked, “Is anyone left?” He leaned back out and said, “No one is left, let’s get out of here.” No one was coming out of the forward over wing exit on the right side, and he saw only one person go out the left exit. The passengers flowed smoothly out the right aft over wing exit. The passengers bent over as they exited, and everyone was very orderly and calm. He and another passenger picked up the man with the broken leg and carried him to a road. Severe rain and hail started at that point. He just stood there because he couldn’t see. Then he started looking for his wife. He knew she was sitting in the front section. He went looking from group to group to find her. About 45 minutes later he found her by a round bale of hay. The firemen realized his wife’s neck was hurt and brought a collar over to her. They waited about an hour until an ambulance took them to a hospital.

#### Seat 24E

#### Female, age 28

She was traveling with two children. Her four-year-old daughter was on the aisle in the D seat, and her infant daughter was sitting in a child restraint in the F seat. As the airplane approached

Little Rock the storm looked bad. The airplane landed, and then went “back up.” Things came down from the ceiling. She saw an older man in front of her thrown from his seat into the aisle. After the crash, she saw the man lying on the floor, and other passengers were pushing past him. She and her children went out the first exit they came to on the right side of the airplane. She did not see any other exits. The interior of the airplane was lit up by fire. Other passengers helped her get her children out of the airplane. She and her children were taken back to the terminal. Her younger daughter was seated in her own child restraint device. It was a Century Bravado model, installed in a forward-facing position. At the time of the accident, the child weighed 28 pounds, and was 25 months of age (birth date: 4/2/97). She reported that she had owned the device for a year, and that it was difficult to install in an airplane seat because of problems getting the airplane seat belt buckle through the attachments on the child seat. She had “tightened the child seat down” as much as was possible, and it remained in the same position after the crash. She had used the device on other airplane trips, and had similar troubles with the installation. She believed that it would have been impossible for her to hold on to her child during the crash had the child been seated on her lap.

#### Seat 27D

##### Male, age 22

He did not look at the safety briefing card and only watched a portion of the safety demonstration. When the airplane first landed, there seemed to be no problem, however, the airplane bounced back into the air. The second time the airplane touched down, it seemed as if it was out of control, and swerved a bit. The pilot “turned on some sort of brake,” but it did not reduce the speed. The airplane wavered back and forth, but kept going the same speed. He heard a flight attendant behind him yell “Brace.” He braced with his hands behind his head, and checked to make sure his seat belt was tight. The airplane turned quickly. After the airplane stopped, some of the seats were out of place. Most of the seats in his area were “OK.” His seat did not come loose. Broken seats did not obstruct the center aisle to the exit. Luggage fell from overhead. Several rows ahead, he saw flames. People started getting out of their seats. A woman grabbed a violin. He looked for his shoes because he had taken them off. He found them and put them on. It was not chaotic in the cabin. Everyone was concerned about getting out quickly. He looked aft because he knew there was an exit there. Someone told him to move forward. Ahead, he saw emergency exits being opened. The man next to him in seat 27E was a friend. The friend asked if he wanted him to get his backpack. He saw his friend “scoot” toward the aisle and stand up. Passengers were filing out row by row, then going forward. He and the other passengers moved forward toward flames. He went to the right aft over wing exit. He saw people go out the left over wing exit. He stepped on the exit plug as he went out. After he exited, he walked down the wing and got to the ground. He couldn’t see because of the rain and hail. The rain and hail lasted at least 15 minutes. Fire trucks and paramedics arrived. He did not get on the first bus. While he was waiting for transportation, he called his parents on a cell phone.

#### Seat 28B

##### Male, age 21

He did not read the information card or watch the safety demonstration. He slept on the flight, and things didn’t get scary until descent. The airplane started getting lower and could see rain and lightning. After landing, the airplane did not stop like “normal.” Once the airplane stopped, everyone got up. A woman told everyone to calm down. He climbed over seats to get out. He

initially tried to go forward, but somebody said to try the back. He saw that the fire was getting close to the forward exits. A woman said they couldn't get out the back, and that they had to go to the front. He did not know what to do. Smoke was all around him and he couldn't see. He heard people yelling and crawling around. He thought they were trapped. He heard someone say to kick out the walls, but that did not work and he didn't try that for very long. Someone said they could get out the back, so he and some other passengers filed toward the back. No one was kicking and screaming and yelling. The passengers got out quickly. He did not know who opened the tail cone exit, but it was easy to get through. Once he was outside, he moved away from the airplane. He went to the emergency vehicles and received oxygen. He was taken to a hospital.

#### Seat 29D

#### Male, age 62

He sat across from the aft galley door. He did not review the safety information card because he was familiar with the airplane. The pilot announced the possibility of a little rough weather. The flight was routine. He overheard the flight attendants discussing how tired they were due to their long day. He saw occasional lightning. About 12 minutes out, the captain announced that it might get a little rough, and the view outside the airplane would provide a spectacular light show. During final approach (the last minute or two), he saw landing lights out the right side of the airplane. It was raining very hard, lightning, and hailing. The airplane was yawing and it got worse as they descended. The airplane hit very hard on landing. He was not sure if the airplane hit with the nose or the rear wheels. He saw the spoiler come up on the right side and then go back down. The pilot put the "reversers" on and it did not seem to catch at all. The airplane proceeded to roll. The pilot put the "reverse thrusters" on again and then turned them off again. He heard the flight attendant command the passengers to brace. He braced on the seat in front of him and reported that the man next to him did also. The airplane shifted to the left and then to the right. The airplane seemed to gain speed. The airplane started coming apart and he was pitched around pretty hard. The galley exit door next to the flight attendant started coming in on her and pitched her toward him. She landed on top of him. He released his seat belt. The flight attendants yelled "brace," and their instructions helped prepare the passengers for the impact. After the airplane stopped, "panic set in." His seat belt held him in place, but his seat "came loose" at the back left. The passengers looked for a way to get out of the airplane. He saw flames in front of him. The flight attendant told people not to panic. He heard that there was an opening in the back so he went aft but the exit was blocked. He turned around and went back toward his seat. The fire and lightning enabled him to see the aft galley exit. There was a hole at the top of the exit. He and several men tried to pull the exit open further. Smoke was getting thick and they crouched down to avoid the smoke. The flight attendant thought they could get out the hole at the top of the exit. She climbed up and looked out and said yes – they could get out there. The flight attendant went out the hole "leg first." The hole in the exit was a gap between the exit and the exit frame, located at the top of the exit, on the left side. It was approximately six feet above the floor and shoulder width. There was a lot of debris at the lower portion of the exit. He saw six to eight people go out the hole at the top of the exit before him. He stepped on some seats and exited through the hole head-first and dropped about 12-15 feet to the ground. He was knocked out when he hit the ground. He walked or crawled away from the airplane through deep water, towards the right front of the airplane, near a bale of hay with a group of 10-12 people. The lightning was intense. After a few minutes, the lightning and the hail began to subside. It was

“another five minutes or so” before the fire trucks started coming (15-20 minutes from crash to fire truck arrival). He walked up over the rocks to the fire truck and got on a bus.

#### Seat 30F

##### Female, age 59

She described herself as a “seasoned flier.” She does not ever listen to the announcements. Prior to boarding at DFW, the gate agent told the passengers that they would have to “hurry on the airplane” because the crew might be pulled if they waited any longer. They departed Dallas at 10:50 P.M. About 8 miles out of Little Rock the pilot said that there was turbulence to the north and that they could look out of the left window and see the lightning show. They were circling near Little Rock and she saw straight-line rain, hail and “pea soup” fog. There was a lot of lightning. The descent into Little Rock was the quickest she had ever experienced. The airplane touched down hard. She thought the pilot applied the brakes but “let off” and it felt like the airplane was “sliding like a hockey puck.” The airplane also rocked back and forth. Seconds before the crash, the flight attendant said, “brace yourself for impact.” She did not bend down. She was frozen. She did not feel much of an impact although it was like the “crack or pop of a whip.” Her seat remained attached to the floor. She had trouble getting her seat belt off because she tried to open it like her automobile seat belt. The flight attendant looked out through the aft galley exit and told the passengers the door was blocked. She thought the flight attendant ran forward saying that there was a “baby up front.” She never heard from her again. She looked up in the front of the airplane and saw flames and thick smoke. Another passenger checked the tail cone. She got down as low as she could. She had worked in a burn center for 15 years and she didn’t want to be burned. She heard someone yell to go out the tail cone. She had a little trouble climbing over seats to get to the tail cone exit. She did not have a problem getting through the gap in the tail cone. She said she was one of the last passengers through the tail cone gap. She estimates that about 20 – 25 passengers went out the tail cone. She thought the fire fighters got there quickly. A bus came and took the passengers to a hangar. She was taken to St. Vincent’s Hospital in an ambulance at about 0245.

#### Seat 31D

##### Male, age 21

He traded his assigned seat with a traveling companion, and was seated in seat 31F. He thinks he “may have looked” at the briefing card, and he definitely watched the safety demonstration. The pilot made an announcement that he was going to avoid a storm. As the airplane got closer to Little Rock the rain increased and he saw what he thought to be hail. The pilot told the passengers to look off to the left and see the “light show.” The pilot instructed the flight attendants to prepare for landing. After the airplane landed, he saw a flap on top of the wing come up and then go back down and then come back up again. As the airplane rolled down the runway, he saw “a lot of water splashing up almost to eye level.” The airplane went off the runway, and it felt like it was “out of control.” The airplane shook violently. He remembered that some of the seats disengaged from the floor. His seat came loose, too. He doesn’t remember his seat falling over, but later when he was trying to get out of the airplane, he observed his seat leaning backwards. The seat in front of him stayed attached to the floor. He did not remember if any lights were on in the airplane, but he could “see pretty well.” Immediately after the airplane stopped, there was a lady behind him whose seat was restricting her movement. He looked to his left at the closest exit and the flight attendant was telling everyone that the exit would not open.



He went to the very back of the airplane. The door to the tail cone exit would not open, and there was a male passenger kicking at it. He returned to his seat and the 2 people that he was traveling with had torn off part of the wall and were trying to kick out the windows to get out. Black smoke was pouring into the airplane. He covered his mouth. He returned to the aft part of the airplane to get away from the smoke. A male passenger had opened the door to the tail cone exit wide enough for people to get out. He heard someone tell the passengers to come that way. He had to climb over a couple of rows of seats that were in the aisle. He estimates that it took less than 1 or 2 minutes to get off the airplane. After he got out of the airplane, it started to hail. He held a piece of the airplane over his head to protect him from the hail. Some people were coughing because they inhaled too much smoke. It seemed to him that it was 15-20 minutes before rescue trucks arrived at the crash scene. Firefighters put out the fire. He got on a bus and went to a fire station on the airport.

#### Seat 31E

Female, age 46

She was traveling with her daughter and her daughter's fiancé. The fiancé was originally assigned seat 19D, but at DFW was assigned seat 31D. He actually sat in seat 31F. She sat in seat 31D and her daughter sat in 31E. She was told by gate agents at DFW that the passengers needed to board rapidly because the crew was "almost at the point that they could not fly any more." She did not read the briefing card "because the exits were right there." Coming into Little Rock the pilot told the passengers that there were thunderstorms in the area, and that the flight attendants needed to sit down. There was a lot of turbulence before they began to descend. The airplane landed and she thought it would be OK. The airplane "went up a little and then bounced." There were two bumps before "the ripping and crashing." A flight attendant told passengers to brace twice. She did not know what brace meant. She thought brace meant to stiffen and hold on to the armrest. The row of seats that she was in went forward, came loose from the floor, and slid to the left. She was on her knees. She did not see flames when she first got up. She knew there were two ways out of the airplane, and they were close to her seat. She was very calm and confident. The flight attendant sitting in front of them was not at her seat anymore. She released her seat belt. She went to the aft galley exit forward of her seat, but the exit would not open. She heard someone say that there was an exit in the back of the airplane, and that the passengers should go to it. At the rear exit, there were three men trying to get the door to the tail cone exit open. The men said to turn around and go forward because the exit would not open. She turned around to go back to the galley exit. She did not see lights on the floor. She saw fire a few rows forward on the right. Her daughter's fiancé started pulling and kicking on a passenger window and trim in the aft part of the airplane. She thought that they "could have used a hatchet." The cabin was smoky and she "could not see." Her daughter's fiancé told them to come toward his voice, so she and her daughter went toward the aft. She saw a vertical crack in the airplane. She stepped through the crack and was outside the airplane. She was in water and weeds. She went to the fire trucks, but they didn't have blankets. She got on a bus and was taken to a hangar.

#### Seat 31F

Female, age 21

She sat in Seat 31 E. During the crash, her seat row came loose and slid to the left up against the wall. The seat row in front of her and the seat row behind her also "broke loose." The seat behind

her slid farther to the left than her seat. A woman in the row behind her had her legs trapped under the seat. A woman in row 30 could not get her seat belt unfastened and someone helped her. She had to climb over seats to get to the tail cone. It was not completely dark in the cabin, it was more “grayish.” It was “pitch black” in the tail cone.

#### Seat 32D

##### Male, age unknown

He did not look at the briefing card on this flight. He did look at one on a previous flight. He watched the safety demonstration. On approach, the airplane was rocking back and forth. During landing, it felt like all the tires hit at same time, and he thought the touchdown was “pretty good.” The power was cut to the engines and they were reversed. The “reversers” stopped, and the engines “came on” again. The airplane was not slowing down. He heard a flight attendant say “brace yourself for impact.” He leaned forward and grabbed his knees about 2-4 seconds before the impact. He thought that the impact lasted 15-25 seconds until the airplane stopped. During the impact he was thrown forward, and the seats forward and aft of his seat broke away from the floor and moved to the left. When the airplane stopped, he unbuckled his seat belt and stood up. There was “some kind of dome light” on the ceiling behind him in the back of the airplane. The light illuminated the area well enough to see. His seat was in the galley area. He was very calm. People were somewhat panicked trying to get to the back. The lady behind him was trapped and she had her seat belt off. He picked up his row of seats and got her out. Two men from behind him were already at the aft bulkhead exit door. Both of the men had their hands around the top and sides of the exit door throwing their weight backwards and trying to open it. The door opened a little, but did not really “come open.” Finally, it opened enough that the flight attendant slid through into the tail cone area. She came back to the exit door and said “we cannot go that way.” Some people started kicking a window and ripping off the interior of the airplane. He noted that smoke “hit us at about chest high,” and was very sooty. At first the smoke wasn’t too bad, then it got worse. He crouched down in the galley area with his nose nearly on the ground and tried to breathe through his shirt. Smoke completely filled the cabin from floor to ceiling. Somebody got the exit door open, and passengers began entering the tail cone area. He went into the tail cone area, noting that it was dark, but he could see “a little.” People were in a single file line. There was no pushing and shoving. He got out and helped separate the tail cone further from the fuselage to make a larger gap. At least 15 people exited after him. It was raining outside. He thought it took 5 minutes to get out of the airplane. There was a lot of wind and severe lightning every three or four seconds. The rain lasted 10-15 minutes after he was out of the airplane. Fire trucks arrived and started spraying water on the airplane. An ambulance got stuck in the mud and several men pushed it out. He was told that there was a bus coming and he should get on it. He got on the bus and went to the rescue station.

#### Seat 32F

##### Female, age 20

She remembered the flight attendants’ safety demonstration but she did not look at the briefing card. When the wheels touched the runway the first time it felt like the airplane was “hydroplaning.” She felt a second bump and more “hydroplaning.” She was sitting next to an engine, but the engine noise was not as loud as usual. She heard the flight attendants yelling “brace,” but she thought they were yelling “brakes.” She did not see any overhead bins fall, and nothing hit her on the head. A few rows of seats came apart, piled on top of each other and

shifted into the “kitchen” area. She thought about 6 rows of seats “dominoed on top of each other.” Her feet were trapped under the seat in front of her. The passengers behind her had their feet caught, too. Another passenger helped her get her legs out from under debris. When she stood up a metal strip off the seat “stabbed her” in the back of her leg. She saw fire about 10-12 rows in front of her, but smoke was not yet at her row. She had to climb over seats to get into the tail of the airplane. The flight attendant screamed at the passengers to go the other way. The passengers went back toward the front and there was smoke. She got down low and covered her mouth with her dress. The passengers turned around and went back to the tail. By that time, the flight attendant and another passenger had kicked the tail cone off and it was opened up enough for her to get out. She was the third or fourth person out of the tail cone. She fell when she got outside, and noticed there were about 15 other passengers who were near that exit. She was in water up to her knees. She ran through the water and up a rock embankment to get to higher ground. It took a couple minutes to get off the airplane and she watched the airplane burn for several minutes before fire trucks got there. She saw the fire trucks up on the runway and saw them turn around. After the fire trucks got to the crash site, they went directly to the fire and put it out. It took ambulances several more minutes to get there. She had no sense of time, but she thought that it took a long time for the emergency vehicles to get there. The weather was hailing and raining really badly, and it was very cold. The rain stopped but there was a lot of lightning all around them. A fireman asked those who could walk to walk back through the water to a bus. There was a school bus for the passengers to take them to the fire station. She had bruises at the top of her feet from the seat in front of her and a bruise on her left hip.

#### Seat 33D

#### Male, age 40

He did not look at the briefing card, but he did watch the safety demonstration. The flight was bumpy. A flight attendant told another flight attendant not to start serving beverages until it smoothed out. The pilot said he was starting the descent and told the flight attendants to sit down. It was fairly rough right before landing. The airplane was bucking, and it was a hard landing. He did not feel the brakes being applied. There was no feeling of being pushed forward in the seat. He felt the pilot hit the brakes and heard the “thrusters” come on. The airplane slowed down a bit. The pilot let up on the brakes, then hit the brakes extremely hard a second time. He felt a couple of bumps, then the airplane crashed. All the seats in his area seemed to move to the left. He hit his head on the wall behind him. He did not see any lights in the airplane. It was dark forward of him, but the visibility was good near the back of the cabin. He released his seat belt, but his legs were caught under the seat in front. He pushed the seats off his legs. The woman next to him was also pinned by the seat. He pushed seats out of the way to get her out. A flight attendant told everyone to calm down. The flight attendant from the aft cabin couldn’t get the aft exit door open, and told the passengers to go forward. There was smoke in the forward cabin up around the ceiling. He and another passenger helped the flight attendant open the aft exit door. The door was dragging on the bottom edge. He pulled on the bottom of the door while another passenger pushed on the top. The door came open and the flight attendant went into the tail cone area. She pulled on a red emergency handle. The flight attendant said they would have to go forward. He yanked on the handle that she had pulled and nothing moved at all. The lightning allowed him to see. He and another passenger began pulling on bundles of cable. He and another passenger began jumping on the tail cone. Passengers were entering the area, but had no place to go. A crack appeared around the tail cone, approximately 18 – 24 inches wide. The flight

attendant and other passengers went out the crack. He left the airplane through the crack and moved away from the airplane. He saw flames going through the fuselage. Everyone was getting low to avoid the lightning. He heard fire trucks. Passengers were loaded onto a bus.

#### Seat 33E

##### Female, age 39

She was seated in 33E, which was a middle seat. She did not look at the safety briefing card but did look for the exits on either this flight or the previous flight. It started getting pretty turbulent - the worst turbulence she had ever experienced. She watched a flight attendant pour drinks and wondered how she was able to do that. She did not remember much about the landing, but thought it seemed to be a little bumpy and then seemed to smooth out. She held on to her seat and the next thing she knew, she was turned and her legs were pinned between the seats. The men on either side of her got up. She told them that her legs were caught between the seats. The flight attendant said for her not to panic. The men on either side of her made people in the seat in front of her get up, which freed her legs and she was able to stand up. Her seat belt had stayed fastened. She went to the back of the airplane and heard a flight attendant say the exit would not open. She and other passengers turned around to go forward. They went forward and got back up in the cabin and then heard people say to turn around and go back. Smoke was in the cabin at that time. She saw a flight attendant trying to pull on the aft exit door but it was "not working." Two men helped pull on the door and finally got it open. The flight attendant said, "We have to get out." In the tail cone area, two male passengers and the flight attendant were trying to get the tail cone open. The flight attendant began telling people to "get out," after the cone was opened, because no one was going out the opening. Outside the exit, she saw other passengers coming out of the airplane. She heard men saying "come this way." She walked through water before getting to dry land. She stood in a group of people, some of whom were injured. It was raining and the worst weather occurred right after she got outside. She saw people using cell phones. She and the other passengers became aware of ambulances on the other side of the airplane and realized they couldn't get to them because of the water. A paramedic handed her a flashlight and requested she shine it on the path so they could see to carry stretchers to a tent. One of the rescue workers instructed her to get on the ambulance. There were two other passengers on the ambulance and they were taken to University Hospital.

#### Seat 33F

##### Male, age 42

The flight to Little Rock kept getting delayed. He boarded the airplane at about 10:25 and the airplane pushed back at about 10:45. About 80 miles out of Little Rock, the captain told the passengers that there would be a slight delay because he had to "overshoot the airport and come back from the other way." On descent, there was a tremendous amount of lightning, and it was bumpier than usual. He tightened his seat belt. The landing was harder than normal. Brakes were applied, then released. The thrust reversers "came on strong," and the brakes were applied again. He had a sensation of hydroplaning or sliding. The airplane veered to the right, and seats started coming loose, and sliding to the left. He unbuckled his seat belt, and his leg was caught under the seat in front of him. He took off his shoe, which freed his leg. He went aft over the seat, and began helping the flight attendant open the aft exit door. The door opened in increments: each tug opened it a little more. He saw lights in the tail cone area. He believed the lights were on in the tail cone area, not the aft galley. He went into the tail cone area with the flight attendant. He

saw other passengers pulling on the tail cone release handle, so he pulled on it, also. He saw a passenger jumping on the tail cone. He noticed a crack on the left side of airplane. Passengers began exiting through the crack. The flight attendant exited through the crack and he followed her. He looked back at the airplane, and did not see anyone exit the tail cone after he did. Flames were visible 1/3 of the way down the tail. He estimated that it took 30 – 35 minutes for help to arrive. He rode to a fire station on a bus.

### 3.2 Emergency Personnel Interviews

#### Emergency Medical Technician No. 1 (EMT1) Metropolitan Emergency Medical Services

EMT1 believed he got to the scene about 10 – 15 minutes after the crash. The fire department was still putting out the fire. They came in on the right side of the airplane, then went around to the left side of the airplane. He saw a man, approximately 50 years old, still sitting in a seat in the airplane. EMT1 did not remember the exact seat, but remembered that it was in the first-class cabin, on the right side, in an outboard seat. The man was alert. EMT1 remembers that there were “running lights on the floor” of the airplane cabin that were illuminated during the time he was in the airplane. He did not remember if he saw any overhead lights that were on.

#### Emergency Medical Technician No. 2 (EMT2) Metropolitan Emergency Medical Services

EMT2 was driving the mass casualty truck. He did not know how long it took to reach the scene after the crash. When he arrived, passengers were already being loaded onto buses. He began setting up the tents, backboards, triage areas. Later he walked the wreckage perimeter looking for injured passengers. He looked for injured passengers in the first-class area of the cabin, also. He did not recall seeing any airplane lights that were on.

#### Fire Fighter No.1 (FF1) Little Rock Fire Department

FF1 noticed that there were illuminated floor lights inside the airplane’s forward cabin when someone asked him if he knew how to turn them off. He told the person asking that he thought they were probably battery-operated and, if so, could not be turned off. He estimated that it was approximately 20 minutes after the accident when his attention was called to the lights, FF1 did not notice any other airplane lights that were illuminated.

#### Fire Fighter No.2 (FF2) Little Rock Fire Department

After the fire was out, approximately 60 – 90 minutes after the accident, FF2 made a sweep through the airplane to look for remaining passengers. As he was looking under the seats in the front section of the airplane, he noticed that the floor lights were illuminated. He did not notice any other airplane lights that were illuminated.

Fire Fighter No.3 (FF3)  
Little Rock Fire Department

FF3 observed illuminated floor lights in the airplane approximately 2 hours after the crash, and noticed that they were still illuminated around sunup. He did not notice any other emergency lights on, but did notice that all 4 of the over wing exit hatches were open.

4.0 Aircraft Damage and Wreckage Site

Unless otherwise noted, the terms “left” and “right,” refer to aircraft left and right.

4.1 Description of Site

The airplane came to rest 830 feet beyond the threshold of runway 04R. The fuselage was vertically transected forward of the wing spar at approximately fuselage station (FS) 800. The aft section of fuselage came to rest at an angle of approximately 100 degrees left, relative to the centerline of the forward section. The forward section of fuselage was circumferentially cracked at FS 579, between rows 11 and 12. The rear section of the fuselage (aft of the forward wing spar) had extensive fire damage. The crown of the fuselage and interior cabin furnishings were consumed by fire from row 18 to the aft lavatories and rear galley. The tail section of the airplane aft of the pressure bulkhead was intact and smoke-damaged, but not consumed by fire. Refer to the Structures Group Chairman’s Factual Report for documentation of the airplane structure and wreckage distribution.

4.2. Exterior Airplane Damage

The forward fuselage section was not damaged by fire. The nose of the airplane was crushed rearward, and the left side of the fuselage was destroyed from the nose to the cockpit’s rear bulkhead, and from the forward wall of the first class closet at FS 218 to near FS 598. Large sections of the steel approach light framework were intermingled with the fuselage structure that had been peeled away from the left side of the fuselage between FS 218 and 598. The hole in the left side of the cabin extended from the overhead stowage bins in first class and coach class to the cabin floor. There was a break in the fuselage on the right side just aft of row 11 and forward of row 12 at STA 579. The break measured 9 inches across at floor level, 15 inches across at window level, and ranged from one to two feet wide above the window.

4.3 Interior Damage

The airplane interior was original equipment installed in 1983. See Exhibit I for interior flammability certification documentation for N215AA.

4.3.1 Cockpit Damage

The captain’s side window was separated and hanging approximately 12 inches forward of the left seat pan. Both sides of the yoke were separated at the intersection with the post. The captain’s left rudder pedal was attached and the right rudder pedal was separated at the attachment point. The cockpit floor was buckled under the captain’s seat. The captain’s instrument panel separated from the glare shield and was located 24 inches below, and 19 inches

outboard from its original location. The captain’s restraint system was intact, and the left lap belt was engaged in the rotary buckle. The captain’s seat back was bent aft approximately 45 degrees. The floor under the captain’s seat was bent downward, and the seat was attached to the floor track. The center console was displaced to the left approximately 15 degrees. The center instrument panel was 11 inches below the glare shield. The first officer’s instrument panel was approximately 7 inches below the glare shield. The first officer’s control yoke was intact and resting against the glare shield. The first officer’s seat was attached to the seat track. The rudder pedals were displaced aft. The right outboard pedal at foot level was displaced upward four inches. The upper instrument panel was intact. The windows on the right side were not broken. The first officer’s restraint system was intact, and the right lap belt was engaged in the rotary buckle. The cockpit door was displaced aft into the forward galley area. The upper hinge was twisted aft and right, and separated from its attachment point on the wall. The lower hinge was attached to the wall. The two panels of the door remained connected. The cockpit jump seat was undamaged and attached to the left interior wall of the cockpit. The wall was displaced to the right causing the jump seat to contact the right wall. The jump seat could not be opened.

Cockpit Seats and Restraints

|                      | <b>Seat</b>  | <b>Restraint</b>  |
|----------------------|--|---|
| <b>Captain</b>       | IPECO Europe Ltd., Pilot DC-9<br>P/N: 3A0710005032, Issue #2<br>S/N: 5516, A-001-25-81<br>Model #: 3A0710005032<br>AAID: BBCNPJF<br>SEA7082, Date mfg: 6/26/85,<br>TSO C39-a | Pacific Scientific, Yorba Linda, CA<br>P/N: 1101612-01<br>F/A #: 0108900<br>Date mfg: 9/96, Rated Strength 1500lbs.<br>TSO C-22f  |
| <b>First Officer</b> | IPECO Europe Ltd., Co-Pilot MD-80<br>P/N: 3A07100060-08-3, Issue # 3<br>S/N: 17355<br>Model #: 0A071-0016,<br>A001-2581,<br>Date mfg: 4/23/91<br>TSO-C39a                    | Pacific Scientific, Yorba Linda, CA<br>P/N: 1101612-01<br>F/A #: 0108900<br>Date mfg: 9/96, Rated Strength 1500 lbs.<br>TSO C-22f |

4.3.2 Cabin Damage

A double-occupancy aft-facing flight attendant jump seat was bolted to the left forward cabin wall directly behind the captain’s seat. It consisted of a seatback fastened to the wall with four bolts, a hinged seat pan, and a padded headrest. The jump seat was displaced downward and to the right. The seatback was attached to the wall by three of the four bolts. The upper, outboard bolt had pulled through the wall material. The seat pan remained attached to the seatback and both hinges were functional. The padded headrest was found on the floor in front of the jumpseat. The restraint system anchor points were undamaged. The lap belts and shoulder straps were undamaged. A length of angled steel entered the cabin just forward of the 1L door, approximately at its mid point, and projected downward and to the right, and entered the cabin floor at the lavatory door sill. The steel did not contact the jump seat. An over head bin door and

several pieces of the decorative cover from the 1L door were found in front of the jump seat. The slide from the 1L door was found in a pile between the jump seat and the 1L door. The gauge on the inflation bottle indicated 0 psi. The girt bar was undamaged and was not attached to the floor brackets. The 1L door was displaced downward, and the forward portion was twisted inboard and aft. The 1L door handle was found in the 10 o'clock position and could not be moved. Investigators were not able to open the door. The interior window had fallen and was found on the left side of the flight attendant jump seat. Several holes were noted in the lower portion of the door, behind the slide. The emergency light switch on the control panel above the flight attendant jump seat was in the "off" position, with the switch cover down. The interphone receiver was found on the floor connected to the panel by the phone cord. Both flashlight holders were empty. One flashlight was found beneath the jump seat. The galley equipment remained stowed, with the latches found in the locked positions. The walls of the galley were deformed, and the galley carts could not be removed from their stowed positions. The 1R door was found closed. The handle was in the two o'clock position and unmovable by investigators, and the door could not be opened. The door hinge covers were displaced aft exposing the door hinges. The slide was intact under the slide cover, and the girt bar was engaged in the floor brackets. The gauge on the inflation bottle was visible through a window on the slide cover. The needle on the gauge was in the green (fully charged) area.

Slide Information

|                              |   |
|------------------------------|---|
| <b>Slide 1L</b>              | On a silver label: SLI: 1041, S/N: A-4421, Overhaul Due Date: Dec. 1999, mfg S/N: 0225, Last Overhauled: 12/96, Air Cruisers On a yellow label: [The information on this tag was badly smeared with black grease and some of the information was illegible] S/N: 0225, mfg. Date: Feb. 86, Weight: 27.8 lbs, Douglas Spec: 7937921, P/N: 2948.... [unreadable], AAID: BBCMZBF |
| <b>Slide 1R</b>              | On a silver label: SLI: 1041, S/N: A-5850, mfg. S/N: 1728, Overhaul Due: 12/99, Last Overhaul: 12/96, Air Cruisers: TSO C-69a, Part #: D29982-113, S/N: 1728, Weight: 28.4, mfg. date: 12/90, Douglas Spec: 7937921, AAID: BBCMYZH  |
| <b>Slide 2L</b>              | Destroyed by fire   |
| <b>Tail Cone Slide</b>       | (silver label): SLI: 1043, S/N: A-3921, Mfg. S/N: 0121, Overhaul Due: 2/2001<br>Last Overhaul: 2/98, Air Cruisers, TSO-C69A Evacuation. Slide, Part # D29984-119, S/N: 0121, Manufacture Date: 3/86, Douglas Spec: 7937921<br>AAID: BBCMWHF   |
| <b>Tail Cone Slide Cover</b> | American Airlines Flight Safety Systems, Inc.<br>Emergency Evacuation Slide Container<br>Manufacturer Part # 8270016-3<br>Weight 10.0 lbs<br>S/N: [BLANK]   |



The first class closet remained attached to the cabin floor. A separated handle from the captain's control yoke was found between the forward wall of the first class closet and the aft wall of the forward lavatory. The forward lavatory was displaced forward and the door was blocked by the displaced ceiling headliner at the top of the door. The mid-cabin closet remained attached to the cabin floor.

A nine-foot section of the first class cabin headliner was located twelve feet from the left side of the fuselage adjacent to the first class closet. An overhead bin shell was attached to the headliner and the bin's front door panel had separated from the unit. A suitcase and carpeting were commingled with the headliner.

Fuselage frames were separated and exposed adjacent to the original locations of seats 5A and B. Seats 3A and B were separated at the center of the unit. The cabin floor between rows 3 and 5 was buckled, and the floor panels were separated between rows 3 and 5 on the left side of the cabin. The seat track was exposed where seats 3A and B, 4A and B, and 5A and B were originally installed. The seat track was separated at the aft leg attachment on seat 4B.

Seat 3A: The seat was found under the left side of the fuselage at approximately FS 350. The seat was crushed and fragmented.

Seat 3B: The seat was found on the left side of the fuselage approximately 90 feet from its original location in the cabin. The seat cushion had separated from the seat and was found 35 feet from seat 3B, and 55 feet from its original location in the cabin. The lap belts were intact and attached to the seat frame. The buckle was unfastened. The forward and aft seat frame tubes were separated at the center of the seat pan. Both seat legs were displaced aft and inboard, and the aft track fittings were intact. The aft track fitting lock ring was separated.

Seat unit 4AB: The unit was found on the left side of the fuselage approximately 16 feet from its original location in the cabin. The seat cushions and backs were attached to the seats and the seat belts were attached to the seat frames. The buckles were unfastened. The diagonal tube on seat 4A was separated and missing from the seat frame. The forward horizontal support tube was separated at the attachment to the outboard vertical seat leg, and the aft horizontal support tube was displaced upwards and inboard. The headrest was displaced aft at the top left corner, and the left armrest was twisted inboard. The interior portion of the recline control button was separated and missing. The diagonal tube on seat 4B was displaced inboard and separated at the attachment point to the aft seat leg on the inboard side of the seat.

Seat unit 5AB: The unit was found on the left side of the fuselage approximately 24 feet from its original location in the cabin. Seat 5A was intact. The seat back on seat 5B was displaced outboard, resting on the seat cushion. The inboard backrest attachment point was separated. The seat legs were separated at the forward and aft horizontal support tubes. The legs were displaced inboard and were partially separated at their attachment brackets. The lower baggage bar was displaced forward. The seat belts were intact, unbuckled, and attached to the seat frames. The track lips for the forward and aft seat legs were damaged. The outboard track was damaged at the interface of the aft seat fitting, and the track had separated at the forward seat leg fitting.

Seat units 3 EF through 6 EF: These units were attached to the seat tracks. The frames for those seat units were intact. The seat belts were undamaged and attached to the seat frames. The seat belts were unbuckled. Pieces of the center headliner honeycomb structure were hanging down at rows 4, 5, and 6. The passenger service unit (PSU) panel at seats 6E and F was unhinged and hanging down. Above seat 5E, a two-inch diameter steel pole penetrated the ceiling and extended into the aisle next to seat 5E. The floor lighting system was broken at a separated floor panel outboard of the aisle next to seat 4E.

Seat unit 7AB: This unit was the first row of coach-class seats, and had tray tables in the arm rests. The legs were separated from the seat tracks. The unit was leaning forward against the aft wall of the mid-cabin closet. There was no evidence of passenger impact to the closet wall. The seat legs were displaced outboard and aft. The baggage bar and horizontal support tube were intact. The floor beneath seat unit 7AB was buckled and the inboard and outboard legs were displaced outboard and aft. The seat belts for this unit were attached, undamaged, and unbuckled.

Seat unit 7DEF: This unit was the first row of coach class seats, and had tray tables in the arm rests. The unit was in the floor tracks. There was buckling deformation at the bottom of the upper attachment gusset. A saddle attachment at the top of the leg was torn.

Seat 7D: The inboard seat legs were displaced to the left and forward. The seat back and pan were undamaged. The arm rests were undamaged. The seat belt was unbuckled and both ends were attached to the seat.

Seat 7E: The seat back and pan were undamaged. The arm rests were undamaged. The seat belt was unbuckled and attached to the seat at both ends.

Seat 7F: The seat legs were not deformed and were in the seat track. The seat back and pan were undamaged. The armrests were undamaged. The seat belt was unbuckled and both ends were attached to the seat.

Seat unit 8AB: The unit was separated from the seat tracks. The inboard leg for seat 8B was displaced inboard and both seats were resting against the left side of the fuselage at approximately a 30 degree angle. The floor structure beneath the seats was buckled and deformed and the seat track was separated. The seat belts were attached at the seat frame and the seat belts for each seat were intact and unbuckled. The track lips were damaged at the forward and aft seat leg interfaces for seat 8B, and the seat track beneath seat 8A had separated.

Overhead luggage bins and ceiling panels above seat units 7AB through 12AB had broken loose from their mounting brackets and fell onto the seat backs. The air conditioning ducting and the overhead electrical wiring bundles had fallen into the aisle.

Seat 8D: The legs were not deformed and the seat was in the seat track. The left side of the back was deformed forward. The seat pan was undamaged. The left and right armrests were deformed 4-5 inches to the left. The seat belt buckle was latched and the right belt was hooked to the outboard attachment ring. The seat belt attachment for the left lap belt was unhooked from the

inboard attachment ring and was undamaged. The baggage bar intruded into the aft corner of the seat pan.

Seat 8E: The seat back and pan were undamaged. The left armrest was displaced inboard approximately 30 degrees. The seat belt was unbuckled and both ends were clipped to the seat attachments.

Seat 8F: The seat legs were not deformed and were in the seat track. The seat back and pan were undamaged. The arm rests were undamaged. The seat belt was unbuckled and both ends were clipped to the attachment rings. The outboard front of the unit had a small tear in the upper leg attachment.

Seat unit 9AB: The forward and aft horizontal support tubes were separated where seat 9A attached to seat 9B. The cabin floor beneath the unit was buckled and distorted. Seat 9A remained attached to the seat track and was resting against the side of the cabin at about a 35 degree angle. The back and seat cushion of seat 9B were separated from the seat, and the seat pan was displaced downward. The seat back was found resting behind the seat pan and the seat cushion was resting on the forward edge of the seat pan. The seat back had a 4 x 5-inch hole through the middle of the upper cushion. A 3 x 3-inch angled steel bar protruded through the fuselage near the floor between seats 8A and 9A. It extended upward and inboard toward the top of the 9A seat back, and terminated above seat 10B. The seat belts for seats 9A and 9B were attached at the seat frame and the seat belts for each seat were intact and unbuckled. The front floor fitting on seat 9B was out of the track and the corresponding seat track lip was damaged. The aft floor fitting was in the seat track.

Seat 9D: The seat legs were not deformed and were in the seat track. The seat back and pan were undamaged. The inboard arm rest was displaced 2 inches to the left. The seat belt was unbuckled and both ends were clipped to the attachment rings. The baggage bar was displaced upward to the seat pan.

Seat 9E: The seat back and pan were undamaged. The inboard arm rest was displaced 3 inches to the left. The seat belt was unbuckled and both ends were clipped to the attachment rings.

Seat 9F: The seat legs were not deformed and were in the seat track. The seat back and pan were undamaged. The inboard arm rest was displaced 2 inches to the left. The seat belt was unbuckled and both ends were clipped to the attachment rings.

Seat unit 10AB: The seat frame and legs were displaced outboard and aft. The seat back on seat 10B was reclined past its design limit, and the stowage bin above the seat was resting on top of the seatback. The inboard seat legs on 10B separated from the seat tracks. Seat 10A remained attached to the tracks. The floor structure under seat unit 10AB was buckled. The seat track was separated at the aft leg of seat 10B near FS 541. The seat belts were intact, unbuckled, and clipped to the attachment rings.

Seat unit 10 DEF: Seats 10 E and F were intact and attached to the seat tracks. The seat back on 10D was broken at the outboard support tube and was collapsed aft and inboard. The seat belts

were unbuckled, intact, and clipped to the attachment rings on the seat frames. The seat track was missing at the 10D rear track fitting. The 10F aft leg was separated below the gusset at the frame interface. The left side of seat 10D was 8 to 9 inches forward of its normal position.

The fuselage separated at FS 579. Overhead bins, panel supports, and passenger service units fell into the cabin forward and aft of the separation, between rows 7 and 13. The aisle floor panel and the right side of the cabin aft of row 11 was elevated approximately 6 inches above the aisle in front of row 11. The seat legs for 11D, E, and F were collapsed forward and to the left.

Seat unit 11AB: Seats 11A and B were attached to the seat tracks. The seats and the seat tracks were deformed to the left at about a 30 degree angle. The inboard arm rest on seat 11B was damaged. The outboard aft leg was buckled on the inside at the upper gusset. The seat belts were intact, unbuckled, and were clipped to the attachment rings.

An overhead stowage bin was resting on seat 11B and there was a blood stain on the upper head rest cushion of seat 11B. The passenger service unit for seats 11A and B was resting on seat 11B.

Seat unit 11DEF: The legs on unit 11 DEF were separated at the seat frames. Seat 11D was in the aisle. The aft section was separated below the gusset and the forward section was separated above the gusset. The seat belts were intact, unbuckled, and clipped to the attachment rings.

An overhead bin was resting on seats 11D and E.

Seat unit 12AB: The seat unit remained attached to the seat tracks. The ceiling panels and overhead bins above seat unit 12AB collapsed and the bin was resting on the top of the seatback at 12B. The left arm rest for seat 12B was displaced 6 inches to the left. The left rear leg on the unit was buckled on the inside at the upper gusset. A ceiling panel was hanging in the aisle between seats 12B and 12D. The seat belts for seats 12A and 12B were intact, unbuckled, and clipped to the attachment rings. A 3 x 3-inch section of angled steel extended into the cabin above seats 12A and 12B. It extended into the aisle as far as seat 13B, culminating approximately 28 inches above the seat pan of seat 13B. PSU's had fallen and were hanging in front of seat unit 12 AB through seat unit 16AB.

Overhead bins collapsed between rows 11 through 13 and were resting on top of the seat backs 11B and D, 12B and D, and 13B and D. The mounting brackets for the overhead bins were separated in the area where the fuselage separated.

Seat 12D: The seatback and seat pan were undamaged. The left arm rest was displaced 5 inches to the left. The seat belt was unbuckled and clipped to the attachment rings.

Seat 12E: The front leg was almost completely sheared and was displaced aft and right. The rear leg was displaced and twisted aft and to the right. The seat back and pan were undamaged. The right armrest was displaced 3 inches to the left. The seat belt was unbuckled and clipped to the attachment rings.

Seat 12F: The front leg was sheared near the top and the floor track was missing. The rear leg was in the seat track. The upper attachment to the seat broke at the gusset. The diagonal cross bar sheared at the front attachment. The seatback and pan were undamaged. The seat belt was unbuckled and both ends were clipped to the attachment rings.

Seat unit 13AB: The unit was attached to the seat tracks. The support structure was intact and it was resting against the left side of the fuselage at about a 45 degree angle. The overhead bin divider was broken and the aft end of the bin was resting on the top of the 13B seatback. The PSU was hanging down at seat 13A. All seat belts were intact, unbuckled, and clipped to the attachment rings.

Seat unit 13DEF: There was significant floor deformation in this area. The forward and aft legs of seats 13D and E were separated at the seat frame. The top of the forward leg was separated at the frame and the leg was displaced rearward. The top of the aft leg of 13D and E was cracked at the interface to the seat frame. The left arm rest on seat 13D was displaced 2 ½ inches to the left. The left arm rest of 13E was displaced 1 inch to the left. The left arm rest of 13F was displaced 5 ½ inches to the left. The track lips for the front inboard leg were broken. The left rear corner of the seat pan diaphragm of seat 13D was punctured by the vertical portion of the baggage bar. The front seat leg for seat 13F had separated from the seat track. The track lips for the front and aft outboard legs were broken. The aft outboard seat leg was separated at the seat frame interface and was protruding through the right aft seat cushion. Seat belts for 13D, E, and F were intact, unbuckled, and clipped to the attachment rings. The lower frame of the overhead bin above row 13 was displaced and the decorative trim had separated.

Seat unit 14AB: The right arm rest on seat 13B was displaced 1 inch to the left. The unit was otherwise undamaged and in the seat tracks. The seat belts were intact, unbuckled, and clipped to the attachment rings.

Seat unit 14DEF: There was significant floor deformation under this unit. The left aft leg was in the seat track. The left front leg was not in the track, and the track lips were broken. The front left leg stud was broken. The inboard legs were separated below the gusset of the left rear leg and above the gusset on the left forward leg. The front spreader column was displaced at the center. The left arm rest on 14D was displaced 4 inches to the left. The left arm rest at 14E was displaced 4 inches to the left. The left armrest on 14F was displaced 2 ½ inches to the left. The right arm rest at 14 F was displaced 4 inches to the right. The seat cushions and seat belts at 14 D, E, and F were intact. The seat belts were unbuckled and clipped to the attachment rings.

Seat unit 15AB: The seats remained attached to the seat tracks and were intact. The out board rear leg had slight buckling damage. The seat belts were intact, unbuckled, and clipped to the attachment rings. The door from the overhead bin had separated above seats 14B and 15B. The lower frame of the bin was displaced upwards in the middle of the bin.

Seat unit 15DEF: The seats remained attached to the seat tracks and were undamaged except for the armrests. The left arm rest on seat 15D was displaced 4 ½ inches to the left. The left arm rest on 15E was displaced 1 inch to the left. The left arm rest on 15F was displaced 5 inches to the left. The seat belts were intact, unbuckled, and clipped to the attachment rings.

The overhead bins above seat unit 15DEF remained attached and intact. The luggage was contained inside the bins and the doors were shut. The PSU's for seats 15D, E and F through 17D, E, and F were hanging in front of the seats.

Seat unit 16AB: This unit remained in the seat tracks. The left armrest of seat 16B was displaced 1 inch to the left. The unit was otherwise undamaged.

Seat unit 16DEF: The seats remained attached to the seat tracks. The left arm rest on 16D was displaced 4 inches to the left. The left arm rest on 16E was displaced ½ inch to the left. The left arm rest on 16F was displaced ½ inch to the left. There was evidence of impact damage from aft on the back of 16D. The seat belts were intact, unbuckled, and clipped to the attachment rings.

The overhead bins above row 16 were attached and intact. Luggage was contained inside and the doors were shut.

Seat unit 17AB: The unit was separated from the seat tracks and was found leaning against the ground and the left side of the fuselage behind seat unit 17DEF. The aft leg of seat 17A and the forward leg of seat 17B were separated at the seat interface. The forward seat tube on 17B was separated at the leg attachment. The seat track fitting on 17A was intact at the base of the leg. The diagonal brace on 17A was intact and attached to the baggage bar. The left arm rest on 17A was separated from the seat but was attached by wiring and hanging behind the seat. The seatback cushion on 17A had a 2 inch diameter hole located a quarter inch from the top of the cushion, a quarter inch deep. The top left corner of the cushion was displaced forward. The upper seat back cushion on 17B had a 6 inch gash through the top of the seat. Foam and seat material had separated from the top of the seatback.

Seat unit 17DEF: The unit remained attached to the seat tracks. The left arm rest on 17D was displaced 6 ½ inches to the left. The baggage bar was pushed up into the rear seat pan on 17D. The left arm rest on 17E was displaced ½ inch to the left. The left armrest on 17F was displaced 5 ½ inches to the left. The seat belts were intact, unbuckled, and clipped to the attachment rings.

The overhead bins above row 17 remained attached and intact. The luggage was contained inside the bins and the doors were shut.

Seat unit 18AB: The remains of unit 18AB were found among the burned debris near the forward edge of the aft fuselage. The unit was consumed by fire except for pieces of the aluminum seat back panels and part of the distal arm rests. The arm rests were sooted. The seat belt hardware for seats 18A and 18B were found in the burned debris. The belt webbing was consumed by fire and the hardware was clipped to the attachment rings.

Seat unit 18DEF: The unit was found forward of the left wing sitting on a steel I-beam from the approach light structure. All of the seat belts were attached to the seats and were unbuckled. The seat back on 18D was displaced forward and twisted downward with the top corner turned in and down. The arm rest on 18D was displaced and twisted to the left. The outboard leg of 18F was in the track and broken below the gusset on the rear leg and above the gusset on the forward leg.

The seat track under 18D was missing under the aft fitting.

Seat Information

All passenger seats were manufactured by Weber Aircraft. Documentation information was taken from manufacturer’s labels, unless otherwise noted.

| <b>Seat/Accessories</b>   | <b>Documentation</b>  |
|---|---|
| Forward Flight Attendant Seats  | Manufacturer: McDonnell-Douglas<br>Restraints: Pacific Scientific   |
| First Class Passenger Seats   | Weber Aircraft, Burbank, California, Seat, Passenger, Forward facing, Weber #830982-405, Serial # 171, TSO – C39b, Specification N.A.S. 809, Type I, Complies with FAA TSO C-39a Up 4.5 G, Down 8.1G, side 3.0 G, aft 1.5 G |
| Coach Class Passenger Seats   | Weber Aircraft, Burbank, California<br>Seat, Passenger, Forward Facing<br>Specification N.A.S 809, Type I, Complies with FAA TSO C-39a<br>Up 4,5 G, Down 8.1 G, Side 3/0 G, Aft 1.5 G<br>P/N: 830273-401, S/N: 195          |
| Seat rows 21 and 22.<br>Not observed – Information provided by manufacturer   | Weber Aircraft<br>Model numbers 844626-401, 844629-401, 844627-401, 844630-401,<br>16 g “compatible”<br>TSO C-39b   |
| Child Restraint in seat 24 F<br>Not observed – Information provided by mother | Century Products<br>Bravado   |
| Passenger Seat Restraints   | Am-Safe, Phoenix, AZ USA<br>Part Number 502864-(201)-2256, Model Number 502751, rated 3000 lbs., conforms to TSO C-22f  |
| Seat Cushion, First Class   | Weber Aircraft, 2000 Weber Drive, Gainesville, TX 76240,<br>Flotation Fireblocked Assy., Model # 551011, Date 8/97, complies with FAA Part 25.853 (c), effective 11/26/84, and TSO C-72c.                                   |
| Seat Cushion, Coach   | Custom Products, Inc., Mooresville, NC 28115, cp cushion p/n 13133501 E, cp liner p/n 15133501 E, cp assy p/n 19133501, mfg date May 1985, Assy meets FAR 853 (c), meets TSO C-72b.   |

## Emergency Lighting Systems

The airplane was equipped with an overhead emergency lighting system, and a floor proximity escape path lighting system. None of the passengers or flight attendants who were interviewed saw cabin floor lights illuminated after the accident. Two passengers reported that they saw illumination from overhead lights in the aft part of the cabin after the accident. Four members of the rescue and fire fighting teams observed the floor track lights illuminated in the forward passenger cabin during the rescue efforts.

The airplane's emergency lighting systems were examined on July 22, 1999, after the airplane wreckage had been moved to a hangar at the Little Rock Airport. Five battery packs were removed from the airplane wreckage, and will be tested for function. The results will be added to this report.

### Battery Control Modules Removed from N215AA

| <b>Manufacturer</b> | <b>Model</b>                                    | <b>P/N</b>                                     | <b>Location</b>                   | <b>S/N</b>     |
|---------------------|---|--|-----------------------------------|----------------|
| DME Corporation     | UPU-301<br>Control Module<br>Electronics Module | P4-01-0049<br>P4-01-0051-101<br>P4-01-0049-101 | FS 237.25                         | 11481          |
| Grimes              | Battery Power Supply<br>60-0304-51              | 60-0304-51                                     | FS 386,<br>Ceiling,<br>Right side | 23375<br>29578 |
| Grimes              | Battery Power Supply<br>60-0304-51              | 60-0304-51                                     | FS 500,<br>Ceiling,<br>Right side | 27432<br>24569 |
| Grimes              | Battery Power Supply<br>60-0304-51              | 60-0304-51                                     | FS 211,<br>Ceiling,<br>Center     | 15990<br>22279 |
| Grimes              | Battery Power Supply<br>60-0304-51              | 60-0304-51                                     | FS 672,<br>Ceiling,<br>Right Side | 24251<br>21629 |

### Overhead Emergency Lighting System

Examination of the overhead emergency lighting system revealed:

- The lamp and battery pack were not visibly damaged at the forward drop panel between lavatory A and galley 2. The lamp voltage and part number were 2.5V and # 1315.
- The lens was missing and the lamp was intact on the light fixture at the ceiling above row 3 on the right side.
- The lamp was hanging out of the ceiling by wires, and the glass and filament from the lamp were missing at the ceiling above row 7, on the right side.



- The lamp was hanging out of the ceiling by wires and the glass and filament from the lamp were missing at the ceiling above row 9, on the right side.
- The lamp was intact in the holder and the lens was missing at the ceiling above row 14, on the right side. The ceiling was damaged in this area.
- The lamp was hanging out of the ceiling, and the lens was missing at the ceiling above row 14, on the left side. The ceiling was damaged in this area.
- The light unit was undamaged at the ceiling above row 15, on the right side. The ceiling panel was pushed back limiting lamp exposure to 3/8 inch.
- The lamp was missing at the ceiling above row 15, on the left side. The ceiling panel was pushed back limiting lamp exposure to 3/8 inch.
- The lamp and base were hanging by the wires from the ceiling above row 17, on the right side.
- The light unit was in place and the lens was missing at the ceiling above row 17, on the right side.

The overhead lamps were tested by applying voltage from two 1.5V flashlight batteries in series. All undamaged lamps illuminated. The overhead emergency lighting system was not observed aft of row 17 due to fuselage destruction and fire damage.

#### Floor Proximity Emergency Lighting System

Examination of the floor proximity lighting system found the following:

- The "EXIT" sign located to the right of the 1L door, near the floor, was destroyed by a piece of steel that penetrated the cabin.
- The "EXIT" sign located to the left of the 1R door, near the floor, was obscured by a galley unit that was displaced aft.
- The battery pack and charging module (AB5-1) at FS 237.25 was intact.
- The wiring from battery pack (AB5-1) to aisle light conductor at FS 237.25 was intact.
- The aisle lighting strip from FS 237.25 forward to FS 203.6 was intact and obscured by the forward galley unit that had shifted inboard.
- The aisle lighting strip from FS 237.25 aft to approximately FS 500 was intact. The lighting strip was outside the mounting track at various locations. At FS 500, the strip had been cleanly cut. The cut corresponded to a fuselage separation that was intentionally made by airport workers when the wreckage was moved to a hangar facility several days after the accident.

- The aisle lighting strip continued aft of FS 500 to a designed track light disconnect at approximately FS 650.
- The aisle lighting strip and track from FS 650 aft to FS 750 was missing.
- All aisle lighting components aft of FS 750 were consumed by fire.
- The emergency lights and associated wiring located in the tail cone compartment aft of the pressure bulkhead were intact.

The lamps in the floor lighting strips were tested by applying voltage from two 1.5V flashlight batteries in series. The results were:

- There was continuity between pins 12 & 24 of the connector API-1 (battery pack AB5-1).
- The lighting strip between STA 203.6 and STA 237.25 illuminated.
- The lighting strip between STA 237.25 and STA 500 illuminated.
- The lighting strip between STA 500 and STA 650 illuminated.

#### 4.3.2.1 Aft Interior Cabin

The aft cabin was destroyed by fire from row 19 through row 33. Refer to the Fire Documentation Report submitted as an addendum to the Structures Group Chairman's Factual Report. The seats described below were completely burned away, with only the steel seat leg assemblies, floor, and seat track remaining. The exit plug hatches from the left forward and aft over wing exits and the right forward over wing exit were found inside the cabin. The right aft over wing exit hatch was found near the fuselage outside the cabin at the trailing edge of the right wing.

Seat unit 19AB: The forward and aft legs of seat 19A were intact up to the frame mounts and remained in the seat tracks. The seat track beneath the forward leg of seat 19A was consumed by fire. The seat track beneath 19B was consumed by fire and the seat leg was missing.

Seat unit 19DEF: The aft outboard leg was fractured at the interface to the seat frame. The forward outboard leg was missing. Both inboard and outboard legs were displaced 3 degrees inboard.

Seat units 20AB - 26AB: The inboard and outboard seat legs were attached to the seat tracks.

Seat unit 20DEF: The inboard and outboard seat legs were attached to the seat tracks.

Seat units 21 DEF and 22 DEF: - The inboard and outboard seat legs were attached to the seat tracks. They were undamaged up to the seat frame mounts. A fire-damaged center armrest was found between the seats.

Seat unit 23DEF: The inboard and outboard seat legs were attached to the seat tracks, and were intact to the seat frame mounts. Seats 23 D and E inboard forward and aft legs were displaced

outboard approximately 20 degrees. The forward inboard track fitting was moveable in the seat track. The shear plunger on the aft track fitting 23D was absent and the leg could be removed from the track.

Seat unit 24DEF: The inboard and outboard seat legs remained attached to the seat tracks, and were intact to the seat frame mounts.

Seat unit 25DEF: The inboard and outboard seat legs remained attached to the seat tracks, and were intact to the seat frame mounts.

Seat unit 26DEF: The floor panels were collapsed aft. The seat leg was intact but the seat track was absent forward of the front leg.

Seat unit 27AB: The outboard seat leg was attached to the seat tracks and was intact to the seat frame mounts. The inboard seat leg was intact, and the seat track was separated and missing aft of the front fitting.

Seat unit 28AB: Seat 28B forward and aft seat legs were separated from the seat track. Seat 28A forward seat leg had separated from the seat track and the aft leg was attached to the seat track. Seat unit 28AB was intact to the seat frame mounts.

Seat unit 28DEF: Seats 28 D and E forward and aft seat legs had separated from the seat track. Seats 28 E and F forward and aft seat legs remained attached to the seat tracks and were intact to the seat frame mounts.

Seat unit 29DEF: Seats 29 D and E forward and aft seat legs had separated from the seat track. Seats 29 E and F forward and aft seat legs were attached to the seat tracks and intact to the seat frame mounts.

Seat unit 30DEF: Seats 30 D and E forward and aft seat legs were separated from the seat track. Seats 30 E and F forward and aft seat legs were attached to the seat tracks, and the seat legs were broken at the seat frame mount attachments.

The cabin floor beneath seats 31DEF through 33DEF was consumed by fire. The seat legs in this area had fallen into the belly of the airplane and were not examined.

#### 4.3.2.2 Tail Cone Exit

The aft cabin bulkhead door (that provides access to the tail cone exit) was damaged by fire at its left upper corner. The left and right vertical door frame members were bowed inboard approximately 1 inch, at a point 6 inches below the door striker plate. The tail cone was intact and resting the ground. There was a gap between the airplane and the tail cone that measured 18 inches at the widest point. The walkway leading from the bulkhead door to the tail cone was undamaged. The walkway panels leading from the exit door to the end of the tail cone walkway were displaced inboard on the left side. The walkway passage measured 15 inches in width. The railing on the left side of the walkway was broken. The tail cone release handle was hanging by

the cable, 7 inches outside its stowage brackets. The tail cone slide was attached to the girt bar and had not deployed. The gauge on the inflation bottle for the tail cone slide indicated that it was fully charged.

## 5.0 Emergency Systems/Equipment

A Halon fire extinguisher was found in a pile of debris on the left side of the airplane outside of first class. The trigger mechanism was displaced slightly. The extinguisher operated normally. Two small green oxygen bottles were found in the same pile. One (S/N 549038) was missing the glass bezel on its pressure gauge. The needle on the gauge indicated 0 psi. Oxygen did not flow into the mask when its knob was turned. The other bottle (S/N 43984) was missing the mask portion and its needle indicated that it was fully charged. Oxygen flowed from the bottle when its knob was turned. One large green oxygen bottle (S/N 1876x) was found in the debris pile. It was not damaged and oxygen flowed into the mask when the knob was turned. The debris pile also contained a red bag containing the first aid items, the automatic external defibrillator, a first aid kit, a black bag labeled “resuscitator,” and one operable red-colored portable megaphone. Two packaged orange inflatable life preservers were found beneath the forward flight attendant jump seat. Both inflated normally. One packaged orange inflatable life preserver was found in the cockpit. The packaging for the preserver was abraded, with visible holes. The preserver inflated normally, and would not hold pressure in one of its bladders. The oral inflation tube leading to the leaking bladder was crushed at the check valve. The onboard wheelchair was found stowed in a compartment behind the last row of first class seats on the right side. No protective breathing equipment was found. See Exhibit E for the passenger information card. See Exhibit F for placards from type III exits.

### Emergency Equipment

| <b>Emergency Equipment</b>               | <b>Documentation</b>   |
|--|--|
| Personal Flotation Device (from cockpit) | Hoover Industries, Model FV-35E, P/N 3505 105C, S/N D033985, Fabric Date Jan 1988, mfg. March 1988<br>TSO C-13 e.<br>From service report in package: W.H. Brennan, Inc., FAA Approved Repair Station No. YWHR184L, AAL part # VESR001, work order # 82998, restoration date Dec. 1996, restoration due date Dec. 1999, Inspected by Salvador Chavez. |
| Fire extinguisher, halon                 | Walter Kidde, 2.5 lb. halon fire extinguisher, AAP2757, BBCLRWG – AAID label, indicates 215 psi.   |
| Fire extinguisher, halon                 | Amerex Corp. Trussville, AL, 2.5 lb. halon fire extinguisher, AAP 2758, S/N 5-904561, weigh due date 10-99, Initial weight 4 lb. 14 oz., indicates fully charged.  |
| Oxygen Bottle, large mask attached       | Aviators Breathing Oxygen Only, no manufacturer information, 1800 psi., cabin only, MPN C+41532-503, CPN Bo+5705, S/N 1876x, bench check due J-2003, gauge indicated ~ 500 psi.  |
| Oxygen Bottle, small no mask             | Aviators Breathing Oxygen Only, no manufacturer information, 1800 psi., cabin only, MPN CTY-1685-503, CPN - CYL 5050, S/N 43894, bench check due, 11-2000, gauge indicated ~ 500 psi.  |

| <b>Emergency Equipment</b>         | <b>Documentation</b>   |
|------------------------------------|--|
| Oxygen Bottle, small mask attached | Aviators Breathing Oxygen Only, no manufacturer information, 1800 psi., cabin only, MPN C- 141685-503-503, CPN – CYL 5050, S/N 549038, bench check due, 8-2003, gauge indicated 0 psi. |

## 6.0 Medical and Pathological

The Survival Factors Group obtained survivor injury information from Arkansas Children’s Hospital, Arkansas Heart Hospital, Baptist Medical Center, Baptist Memorial Medical Center, Southwest Regional Medical Center, St. Vincent Hospital, and the University of Arkansas Medical Center. Information on deceased passengers was obtained from the Pulaski County coroner. See Exhibit G for description of injuries.

### 6.1 Injury Table

| Injuries | Flight Crew | Flight Attendants | Passengers | Other | Total |
|----------|-------------|-------------------|------------|-------|-------|
| Fatal    | 1           | 0                 | 10         | 0     | 11    |
| Serious  | 1           | 3                 | 41         | 0     | 45    |
| Minor    | 0           | 1                 | 64         | 0     | 65    |
| None     | 0           | 0                 | 24         | 0     | 24    |
| Total    | 2           | 4                 | 139        | 0     | 145   |

### 6.2 Passenger Injuries

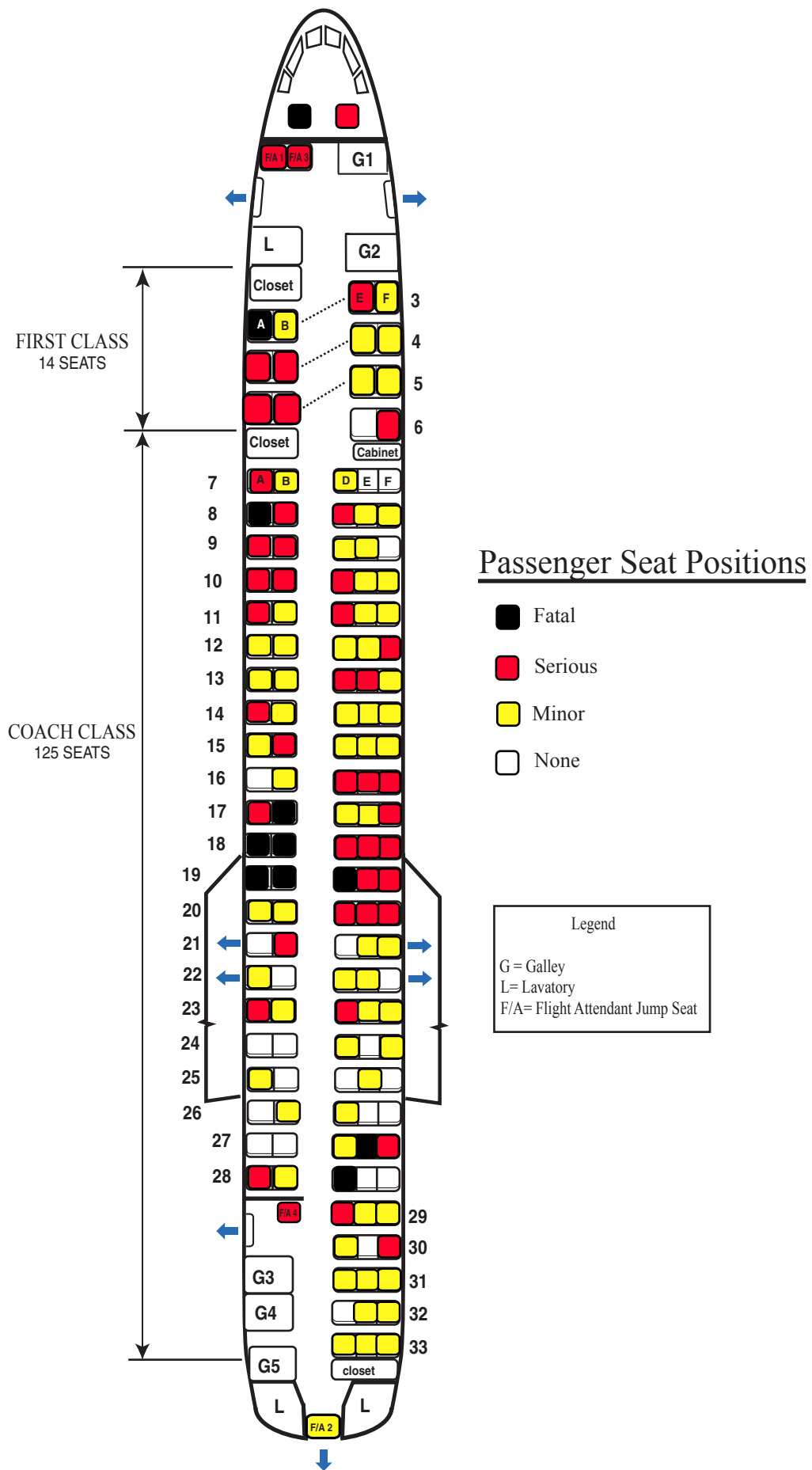
Figure 2 contains passenger and crew injury data based on information gained from medical records and passengers’ self-reported injuries. The passenger locations in Figure 2 are based on seat assignments provided by American Airlines.

### 6.3 Passenger Fatalities

Eleven occupants sustained fatal injuries as a result of the accident. According to the Pulaski County Coroner, the passengers who occupied seats 3A, 8A, 17B, 18A, 18B, and the captain of the airplane died as a result of traumatic injuries, and the passengers who occupied seats 19A, 19B, 19D, 27E and 28D died from smoke inhalation and/or thermal injuries.

## 7.0 Rescue and Fire Fighting Response

See the Airport and Emergency Response Group Chairman’s Factual Report for documentation of the emergency response.



**Figure 2**  
**Passenger Injuries**

## 8.0 Passenger Evacuation

The first officer was removed from the wreckage by rescue workers. The 1L and 1R exit doors were not used. The No. 3 flight attendant was removed from the forward jump seat, and carried out of the airplane by a passenger. The No. 1 flight attendant followed the passenger carrying the No. 3 flight attendant out of the airplane through a hole on the left side of the airplane, in the first-class section. Forward of the fuselage separation at row 18, passengers escaped through a large hole in the left side of the first-class section, and through a fuselage separation at row 12. A passenger reported witnessing another passenger jump from the airplane cabin at the fuselage break aft of seat row 17.

Seven passengers were ejected into the area between the fuselage sections, aft of row 16 and forward of row 19. Two passengers from row 19 exited the airplane through the fuselage separation directly forward of their seats.

Four type III over wing exits were opened by passengers from inside the cabin. No passengers were observed escaping through the forward left over wing exit. Some injured passengers and children were assisted to the right aft over wing exit by other passengers.

The 2L aft galley exit door was damaged by impact with a vertical column from the approach lighting system, and could not be opened. The No. 4 flight attendant and several passengers described deformation of the door that produced a gap between the fuselage and the top of the door. Several passengers and the No. 4 flight attendant reported that they used the gap to escape the airplane.

The No. 2 flight attendant reported that the aft bulkhead door leading to the tail cone exit was difficult to open, and required the assistance from passengers to open it wide enough for passage. After it was opened, the No. 2 flight attendant and a number of passengers entered the tail cone area. The No. 2 flight attendant and at least one passenger pulled the tail cone release handle, but the tail cone did not fall away from the airplane. The flight attendant and passengers created a gap between the fuselage and tail cone by kicking and jumping on the cone. A number of passengers and the No.2 flight attendant used this gap to escape the airplane. The tail cone slide did not deploy or inflate.

Mark H. George

*[original signed]*

---

Survival Factors Investigator

Exhibits:

- A. Survival Factors Group Chairman's Factual Report
- B. Excerpts from AAL Recurrent Training Programs
- C. Excerpts from AAL safety manual
- D. Photographs
- E. Passenger information card
- F. Over wing exit placards
- G. Injury chart
- H. Passenger questionnaires
- I. Interior Flammability Certification