Attachment 1

To Operations Group Chairman's Factual Report

DCA06FA058

INTERVIEW SUMMARIES

A summary of the interviews conducted during the Field Phase of the accident investigation by the Operations Group follows:

Interview:	Jayne C. Akin, Accident Captain
Represented By:	Darrell J. Green, Senior Contract Administrator, FedEx MEC
Date:	July 29, 2006
Time:	1200 CST
Location:	FAA Memphis FSDO, Memphis, Tennessee
Present:	Operations Group, Buchanan absent

During the interview, Captain Akin stated the following information:

Captain Akin stated that she started flying in 1972, and obtained a private pilot license in 1973. She began her professional career by flying "dead bodies and checks." She briefly worked for the FAA in 1978-79 at the Memphis Center air traffic facility, and was hired by FedEx on February 12, 1979. She has been employed by FedEx for 27½ years. Her initial position at FedEx was as a Falcon first officer, then upgraded to captain in the Falcon one year later. She has been a captain for all but one year while at FedEx. She has been an MD-11 captain since 1993, and has had a good training history, with no problems, no failures, no extra training required. Captain Akin was a line check airman in the MD-11 and Boeing 727, as well as a "Flex" instructor on the Boeing 727. She stated that a "Flex" instructor is when you fly as a check airman in the simulator and on the line. She was a check airman for about 4 years on the Boeing 727, and for about 5-6 years on the MD-11. She left being a check airman in Dec 2002, by her own wishes. She initiated the CRM [Crew Resource Management] training program at FedEx. Captain Akin stated that her total flying time was about 16,000 hours, with about 8,000 hours in MD-10/11 airplanes.

When describing maintenance problems on the accident flight, Captain Akin recalled that the only thing of any significance, and which was not pertinent to the flight, was one MEL [minimum Equipment List] item and previous write-ups in the "ARD" [Airworthiness Release Document] about the APU [Auxiliary Power Unit] losing electrical power, but it was closed. The flight had problems with the electrical "falling off," so they started the airplane "in the blocks." Everything else was normal, and this was the first officer's leg. There were no issues en route, or any weather deviations. The weather in Memphis was reporting light rain with winds out of west with gusts. There was no report of gusts on the last report received. The crew had briefed for a landing on runway 18R; they were parking on the west side of the field, so 18R was best. There were no last minute changes.

The first officer briefed and flew a textbook, fully coupled approach. The airplane was on-speed, configured with flaps 35, and stable at 1,500-1,600 feet. The winds were fairly strong from 1,000 feet and up, about 30 to 35 knots. Below 1,000 feet, the winds started to die out. Captain Akin's habit was to call out winds as displayed on her PFD. The winds "tailed off" to about 10 knots about 400 feet, and then the PFD wind indicator went "blank." The winds then shifted northwest at 7 knots, which gave them a slight tailwind, and that was her last observation and probably the wind they landed with. The first officer disconnected the autopilot around 400 feet, and he was on glideslope and centerline. He continued to work and finesse the winds. The touchdown was normal. It did not appear to her that there was a "crab." Speed brakes were deployed, followed by the thrust reversers. Once the first officer applied the brakes, she felt massive shuddering, which appeared like it was coming from the left side of the airplane. The first officer then "got off the brakes," and said something like "I didn't do that." The chattering got worse, and the gear collapsed; the left wing went down. The airplane started to veer to the left side of the runway.

Captain Akin started to assimilate the facts as to what was happening. It appeared that the first officer was doing his best to keep the airplane straight. When he could not do it any more, she took the airplane and tried to keep it straight by using the tiller, some right rudder, and braking. The airplane was located just prior to taxiway, "Mike four," and came to a stop. She observed smoke, but did not see flames. The first officer saw flames and he grabbed the checklist and started to run it. Captain Akin informed the first officer that they needed to "get out" and terminate the procedures she was attempting to accomplish. The jump seat rider deployed the upwind slide and they egressed the airplane.

During follow-up questioning, Captain Akin stated that she could not recall if she had ever flown the accident airplane in the past, but it was possible, given the amount of time she had been flying this type of airplane.

She did not recall what the landing reference speed was for the flight, but assumed that at the landing weight of the flight, slightly less than 300,000 pounds, it would have been around 130 knots. She stated that there was no factor added to the landing reference speed for the winds that were encountered. She recalled that there was a clarification in FedEx's books that winds must be over 20 knots for any additive to be applied.

Captain Akin stated that the first officer "guarded the power in anticipation of having extra 'sink' when the 'crab' was removed, but nothing was excessive."

The first thing that Captain Akin noticed when the airplane came to a stop, was that they were listing 25-30 degrees to the left, and all sorts of alerts, as you would expect with a wing burning off, were experienced. The first thing that she accomplished was to "fire" the number one engine "bottles," followed by shutting down the engines with the fuel levers located on the pedestal, and depressurizing the airplane, and then getting out rapidly. The cockpit door was already opened, probably from the torque

experienced during the event. The jump seat rider had opened the R1 main cabin entry door and deployed the slide.

Captain Akin did not recall having any problems shutting down the engines with the fuel shutoff levers.

She did not recall encountering any problems with the emergency slide. The jump seat rider was a qualified crewmember; he opened everything. At the captain's request, the first officer went down the slide first. He then helped to "stabilize" her as she came down the slide.

Once all of the flight crewmembers were on the ground, they "vamoosed" to the south, to the middle of the runway to get away from the airplane. They wanted to be upwind, initially, and then they went over to the grass. The crew was never separated during the evacuation process.

The airport crash/fire/rescue personnel seemed to take a long time getting there, but time is not valid in a situation like this. The crash/fire/rescue trucks had to come a long way away, so it probably took them 2 to 3 minutes to get there, but it seemed like 2 to 3 hours. Upon arrival, the crash/fire/rescue personnel were very concerned about them. Lots of people showed up. Since Captain Akin's cell phone was still in the airplane, they used the first officers cell phone to call the ALPA [Air Line Pilots Association] accident hotline, followed by a call to Steve McCabe, their Chief Pilot. Shortly thereafter, some management personnel she knew began to arrive at the site (Jack Lewis and Steve McCabe).

Since Captain Akin was on FFDO [Federal Flight Deck Officer] status, she had her duty weapon on her person, and not in its lock box. She realized there would be an issue securing it, and was not authorized to carry it around "Annie Oakley style." It seemed to her that an hour passed by before she and the other crewmembers got into a car to go to operations.

Captain Akin recalled that everyone had little "raspberries" [skin burns] from the slide, which were addressed at the hospital. She also recalled that she twisted her ankle. Drug testing was performed at the FedEx facility.

She stated that her overall opinion of the CRM training was that it was valid and valuable. She stated that she admitted some bias because she had some "ownership" to the CRM program, because she helped start it. She added that in the 15 years following her involvement with the program, the program has only gotten better. Captain Akin stated that her CRM skills are very good; she "espouses it, encourages it, and uses it. Ask any first officers that she flies with, and they will agree."

Captain Akin recalled that the last weather report they received on the accident flight contained no wind gust information. They landed with the 1600/1558 ATIS [Automatic Terminal Information Service], which indicated no wind gusts. The previous

ATIS had gusts; it was 270 at 12, gusts to 18. The flying conditions were smooth on the approach, with more dynamics from the wind as the airplane neared the airport, but nothing that was uncomfortable.

Captain Akin did not recall or observe any difficulty with the control of the airplane. The touchdown was "normal, in the landing zone." The first officer was guarding the throttles because it was a "light" airplane. The throttles "bias" back at 50 feet, without concern for rate of descent, etc. The training manual states that when you "de-crab," you get a higher descent rate, so they kept the engines "spooled" to prevent an excessive sink rate. The auto-throttles were never off. Because the airplane was "light," things happened a little quicker than what would have been experienced in a heavier airplane; therefore, the landing was not as firm as it could have been.

Captain Akin guessed that about 5 seconds had elapsed from touchdown to noticing the event was happening. The landing was not hard. As the airplane was rolling on the runway, with the thrust reversers deployed, and the nose landing gear on the ground, the event seemed to coincide with the application of the brakes by the first officer. That's when they noticed the "big" shuddering and no mistaking that something was wrong. Up to that point, everything was normal.

She stated that the accident airplane had carbon brakes installed. Her experience with them was "a two-edged sword." The MD-11 has always had carbon brakes, and the MD-10 had steel brakes, as a legacy from the DC-10. The carbon brakes allowed pilots to land "heavier" in the MD-10. She liked the carbon brakes, as they seemed to be "smoother, generally."

She stated that the airplane was aligned with the runway while they were landing; it was a "rails" approach and arrival; nothing appeared unstable or abnormal about the approach or arrival.

Captain Akin stated that her opinion of the first officer, as to performing his duties, was that he was "exceptionally professional, conscientious, and he called me Ma'am." He was obviously serious about his duties, and did not leave anything out.

She recalled that the sound she heard during the event was exactly what she had heard in the simulator when the landing gear collapses. It was the same shuddering and noise as in simulator. It was a noise she never expected to hear outside the simulator.

Interview:	Andrew D. Macha, Accident First Officer
Represented By:	Darrell J. Green, Senior Contract Administrator, FedEx MEC
Date:	July 29, 2006
Time:	1040 CST
Location:	FAA Memphis FSDO, Memphis, Tennessee
Present:	Operations Group

During the interview, Mr. Macha stated the following information:

He stated that he keeps a place to stay in Memphis but he actually lives in Seattle.

He stated that he started flying at age 20 at an FBO [fixed based operator] when he was in college. He got his commercial pilot certificate as a civilian and later went through United States Air Force pilot training. He graduated top in his class; therefore, he had his choice of airplanes to fly. He flew the C-17 for 4,000 hours while on active duty for 13 years and he still flies the C-17 in the Reserves. His date of hire with FedEx is April 2004. He was a flight engineer on the B-727 for 1.5 years. He started MD-11 training in the fall of 2005 and finished up in January 2006.

He has over 5,000 hours total flying time, most of which is “heavy” time. He has about 300-350 hours of MD-10/MD-11, all as first officer.

The accident happened on the last leg of a three-day trip sequence. On the first day, they flew MEM-SEA, followed by a layover at SEA. On the second day they went SEA-OAK-SEA, followed by another layover. The only flight leg on the third day was SEA-MEM.

It was a normal takeoff and departure from SEA with very little traffic that day. There was only one maintenance related issue during the en route portion of the flight. One of the fuel flow indicators was MEL’d inoperative. About an hour into the flight, a cyan “X” appeared over fuel-used. The “X” would go away and come back intermittently. He had flown the airplane last week so he was familiar with the problem. He made note of it and he and the captain discussed it. On the in-range call, the captain said that she wanted to have a conference with maintenance after they landed.

He stated that he checked ATIS numerous times en route because rain had been forecasted for MEM. As they began descent into MEM, ATIS did not include rain; however, there was rain west of the field. He and the captain discussed the possibility of rain at the airport and a possible wet runway. This was the only discussion they had relative to the weather. ATC [Air Traffic Control] gave the flight an early descent (compared to the predicted computer profile [PROF]) because of traffic. The autopilot

and auto-throttles were engaged during the descent. They caught the PROF flight path and used it through multiple step descents. They flew over a small civilian airport north of MEM and he and the captain discussed that it did not look wet.

Approaching MEM, ATC asked if the airport was in sight. They saw the airport and accepted a visual approach. The flight was cleared direct to BLEWS with a 90-degree intercept angle. Once on visual approach, the first officer shallowed-out the intercept angle because of winds from the west. All checklists were accomplished normally. Runway 18R was what they had expected and that is the runway they got. They executed a visual approach, backed up with the ILS, full automation. He allowed the computer to use predicted speeds. This was the most conservative approach on arrival. Using Heading Select on the autopilot, he made two heading changes for the intercept: from 90 degrees to 45 degrees and then a 30-degree intercept angle. He estimated that they intercepted the localizer outside of 9 miles from the airport.

He started configuring the airplane based on the computer's calculated slowdown profile. He never needed to deploy speed brakes for a quicker deceleration. The Before Landing Checklist was accomplished. Everything was normal, no warnings. He planned for a flaps 35 landing. He configured the airplane early so the autopilot could stabilize early. About 1,600 feet altitude, the final flap setting was selected. They got a normal DUAL LAND indication. The autopilot was doing a good job maintaining the localizer and glideslope. Everything was stable at 1,000 feet. The captain called "stable." The winds readout was indicating about 36 knots from the west. The captain stated that that compared to tower-reported surface winds. They had 20 knots to lose. Multiple times throughout the descent, the captain advised him of how much wind there was and how much wind they had to lose.

The autopilot handled the decreasing winds from altitude to surface, reducing the drift angle during the descent. At 500 feet CAWS [Central Aural Warning System] callout, the captain called out, "cleared to land 18R." The airplane was making a correction as winds had changed enough to make an approximately two-degree bank. About 450 feet, the airplane leveled out and stopped making corrections. The autopilot was disengaged about 400 feet. He glanced up at the runway; everything was clear, no obstructions. The weather was good. About 300 feet he started to "de-crab" the airplane. The winds continued to decrease in the descent, manually flying the airplane appropriate to conditions. The primary reference was the flight director, with an occasional glance at the runway to check airplane alignment.

He continued to fly the flight director while crosschecking localizer and glideslope. At 100 feet callout from "Betty," winds died-off pretty much but still required some crosswind correction. At 50 feet, "Betty's" cadence began. He properly flared the airplane and landed. The touchdown was normal; he flew the nose of the airplane to the ground with crosswind controls in. There was binding in the #2 thrust reverser. He knew it would not be a smooth transition to reverse thrust. It was normal to have binding. While working on actuating the thrust reversers, he started to apply brakes. The moment he applied brakes, there was a severe and violent shudder. He immediately let off the brakes. The

airplane still had a shudder but he interpreted this to be a residual effect from the original shudder. The thrust reversers were still binding. He applied brakes a second time; the violent shuddering returned. About this time the airplane started to list to left. He still had the crosswind controls in and tried to correct the listing. The airplane listed left while heading left, relative to the runway. He had full yoke and rudder deflection. The captain called out, "I have the airplane." She tried to use the tiller to keep the airplane on the runway. He kept full aileron control in to help her. Her hands were full with throttles and tiller. The airplane came to rest on the side of runway. At this point there were a lot of tones and buzzers going off. The number 1 engine fire warning light illuminated. The captain reached up to pull the Fire Handle and "fire the bottle." He reached down and grabbed the QRH [Quick Reference Handbook]. He started to run the emergency checklist and then he saw smoke billowing from the left side of the airplane.

The captain had a hard time getting one of the fuel levers shut off. The first officer saw an orange glow out the window. While running the evacuation checklist he yelled that "we need to get out now." He opened his window and threw out the rope. He noticed that the cockpit door had opened. He saw the jump seat rider motioning for them to come out. The jump seat rider had already "blown" the slide. The jump seat rider said, "No bags, just yourselves." The first officer went out first, followed by the captain. At the bottom of the slide, he put his hand out to try to slow her fall. Then the jump seat rider slid down the slide. The first officer tried to check the jump seat rider's fall, too. He said "twelve o'clock" and all three started to run away from the airplane. He saw significant smoke and fire coming from the airplane. He noticed that they needed to get farther away and he was also concerned about being run over by fire vehicles. Somebody in a FAA truck picked them up.

It was slightly choppy on the approach with weather on the way. The runway was dry. The landing was normal. He could not feel any side loads during the landing. When the shuddering began, he had trouble keeping the control wheel properly articulated because the shudder was so violent. He could not estimate the time between touchdown and when they began to experience control difficulty but he stated that it was a reasonable time period. Time seemed compressed. The first sign of a problem was when he applied brakes. He stepped on the brakes and got the severe shudder. He thought something was wrong with the antiskid system. He then remembered that carbon brakes were installed on the airplane and they are "grabby." When he stepped on the brakes, it was not normal so he released the brakes.

He stated that they landed, If not right on centerline, just right of centerline, in the touchdown zone. The runway is about 9,000 feet long, plenty of space for a heavy-weight landing. The computer predicted a landing weight of 299,000 pounds. The maximum landing weight with carbon brakes is 374,000 pounds.

There are either steel brakes or carbon brakes installed on the MD-10. He stated that the company paid money to switch to carbon brakes because the airplane stops better with them. He did not have enough experience to know if they are better or worse at improving stopping distance.

He stated that he made the most conservative approach with a crosswind landing. He let the computer select the speed and he let the autopilot fly the airplane on base leg and final approach until about 450 feet so that he could monitor the flight from a “god’s eye view” of the approach. The autopilot seemed to work okay.

The jump seat rider was fantastic in his roll. He accomplished his tasks very well. The door was open and slide was out with a clear egress path. As a crewmember, the jump seat rider has a responsibility to make decisions if he cannot get to the cockpit. He made his command decision that to open the door was the best course of action.

Once out of the airplane, it seemed like a long time for the Fire Department to show up but he could not make a good estimate of the time. Time slowed down; it is a temporal thing.

After leaving the airplane, they moved away from the nose of airplane on the concrete. After going about 100 yards they decided that they were not far enough away. They continued down runway 18R as opposed to going across the runway.

A small rescue truck pulled up and the driver wanted to know if anyone was left on board the airplane. He said, no. He saw Fire trucks begin spraying foam on the fire. Then he saw a Suburban with “FAA” on the side of it.

They stayed in the FAA truck. A policeman came along and took down basic information. The Chief Pilot came out and asked if they needed to go to the hospital. They were probably at the scene for 45 minutes before being driven away. They went to FedEx Flight Ops and then to the hospital. Physically, he just had burns on his arms from the slide.

They were drug/alcohol tested at the company drug/alcohol testing facility. They were at the hospital for about 1.5 hours total.

He stated that he could not have flown the airplane more conservatively. Full automation was utilized until 400 feet. Nothing stands out from any other landing on any other day.

As the airplane came to a stop, the moment he saw the engine fire warning light, the captain was already reaching for the fire extinguisher handle. The captain shut down and depressurized the airplane. She reached for the battery switch but he did not see what she did. He reached for a checklist. Tower called a couple of times to ask about problems and to say that emergency equipment was on the way. He pulled up the “config” page and noted that the left hand truck did not look right. He said that there was a gear problem. He did not analyze that problem any more because they were getting an engine fire indication.

They never formally ran the checklist because of the smoke and flames. The urgency of the situation did not allow enough time to go through it step by step. He stated that he saw the captain doing things. When he saw orange flames he knew it was most important to save our lives.

There were no dangerous goods (DG) on board. Leaving SEA was pretty typical. If there were DG on board, they would have given the DG paperwork to ARFF [Aircraft Rescue and Fire Fighting] when they showed up. He keeps the paperwork in his left pocket.

He stated that he did not notice an engine fire indication until the airplane came to a stop. He stated that he kept scanning the glideslope and was on glide path the whole way down. At 100 feet the airplane was on glide path.

The first application of the brakes was much more violent than his previous experience using carbon brakes. He flew this airplane last week but he did not think he landed it.

This was the first trip with captain Akin. She let him have his choice of flight legs. She flew the airplane to SEA and then they alternated legs after that. The captain was very professional and very personable; very attentive. He asked her questions along the way about her preferences and techniques. She was always very open and she was a mentor to him. Her overall CRM was on the level of some of the best captains he had ever flown with.

He experienced burns on his elbows while going down the slide. The airplane was listing to the left so the slide on the right side of the airplane was steeper than normal. He tried to dig in his heels to slow down the descent and then he used his elbows. He was able to walk out of the slide at the bottom. He could not tell how many feet per minute he was descending, but he did not want the captain to hit him in the head with her feet.

He performed the airplane walk around inspection at SEA and it was normal. He used a flashlight but it was already becoming daylight.

He felt well rested. He got almost nine hours of sleep the night before.

Neither he nor the captain opened the cockpit door and he did not think the jump seat rider put in the code to open it. Perhaps it twisted during the event and that may have caused it to open. The captain is a FFDO and was very strict on door procedures.

When the airplane came to a stop, he pulled up the “config” page. He noted something wrong with the left truck. He did not analyze it.

Normally, carbon brakes are “grabby,” but this was so much worse. This was not “grabby,” it was violent shuddering.

There were lots of warnings and tones going off but nothing else instantly came to mind.

They did not add a wind additive to the V_{REF} speed.

He did not feel any need to slow down quickly to make a particular exit point from the runway.

Interview:	James D. Morrison, Jr., Jump Seat Rider
Represented By:	Darrell J. Green, Senior Contract Administrator, FedEx MEC
Date:	July 29, 2006
Time:	1000 CST
Location:	FAA Memphis FSDO, Memphis, Tennessee
Present:	Operations Group, Buchanan absent

During the interview, Mr. Morrison stated the following information:

His aviation background included 10 years in the United States Air Force flying F15s and then C-141s for 2 years. He flew for BizEx for a year. He worked in the Boeing F22 training department writing training manuals. He then worked in the mortgage business for a year. He was hired by FedEx in January 1996. he was a MD-11 First Officer about 3 years. He has about 5,000 hours total flying time, including 1,500 hours first officer on the MD-10/11. He was a DC-10 flight engineer for 7 years.

He stated that he was really familiar with evacuation procedures.

He got to the airport about 5 am to ride the jump seat on FedEx flight 630 from SEA to MEM. He got upstairs to the ramp office where the first officer and the captain were. He had ridden jump seat with the first officer before so he knew him. After intros he had the bags checked. He separated from the flight crew for about 20 minutes and then went out to airplane with the flight crew. They did their jobs, fairly standard. He slept most of the way while sitting in the second seat away from the L1 door in the courier area behind the cockpit. He never went into the cockpit. His seat was basically aligned with the cockpit door. He slept during the descent, got up, got changed, and put his bags away. It was cloudy outside; he did not know what altitude they were flying. He was seated with his seat belt buckled when the landing gear was extended. He heard the autopilot “click off” when the first officer took over visually.

It was a fairly smooth ride on the approach. He felt the airplane flare and then touchdown. The touchdown was firm but definitely not unusual. The nose of the airplane came down pretty soon after that. A second or two later the airplane really started to shudder. This would have been about the time he would have started to apply the brakes. The shuddering lasted 2-3 seconds and then it seemed to stop shuddering 2-3 seconds, like he let off the brakes. Then the airplane shuddered again and he really knew something was wrong. He kept hearing CAWS warnings “Autopilot, Autopilot.” “CAWS was going nuts.” The airplane really shuddered hard and then came to a dead stop. He thought the airplane stopped straight ahead. He knew they were not going anywhere. He unbuckled his seat belt and went over to the L1 door. He looked out and saw the edge of the runway or a high-speed taxiway. He also saw flames and smoke. The airplane was tilting to the side. It looked like the wing spar was broken. Fire and smoke were going

straight back so there was no immediate danger. He went to the R1 door and looked outside. There was no smoke or fire on that side of the airplane. He elected not to "blow" the door at that time. He heard the flight crew running checklists. He then went back to L1 and he heard them still doing something in the cockpit. The smoke and fire got worse; therefore, he knew it was time to start doing something. He went back toward R1 and he looked in the cockpit. He could not tell how many fire handles were "down." All of the MFDs were blank. He went back to R1 and observed no smoke or flames. He opened the door and it opened "as advertised." The slide deployed but the angle was very steep. He thought to himself, "I can't believe we're going to do this." It was time to make sure the two crewmembers get out of cockpit. He latched the cockpit door open. The captain was about at the observers seat. He said, "No bags." The captain came out of cockpit first. She noticed how steep the slide was so the first officer went down the slide first to help her when she got to the bottom of the slide. It seemed like it took forever for the Fire Department to show up. Everyone was safe and he hoped the cargo was also safe.

From past training, he knew when the airplane was depressurized and he did not have to ask the crew when to "blow" the slide. He was experienced enough to tell when the airplane was depressurized. That's why he waited to "blow" the door. There was no smoke in the cabin or cockpit; it was not a frantic situation. "It really bummed me out because we have good pilots here. Can't tell you how frustrating this is."

Towards the end of the landing roll, he could hear a bunch of jumbled cautions and warnings from the airplane CAWS. The only one he could distinguish was the autopilot. This would make sense because the warnings are inhibited to a certain airspeed. The sounds were all jumbled, but those were the only words he heard. It may have said other words, engine fire, but he could not tell. The cockpit door really muffled the sounds.

The door was closed through most of the rollout but it "clicked open" later. He then could see that the fire handles were "down" and the crew was running the evacuation checklist. The cockpit door should have been locked with the new anti-hijacking system. He did not know how it happened that the door opened. He then latched it open to make sure the flight crew could get out to the slide.

When he unbuckled his seatbelt and looked out L1, he could see that it was cloudy. He could also tell that they were on a runway or taxiway. The smoke was going away from the airplane along the wing line. He thought that they still had a few minutes to react.

On the approach when he heard the autopilot "click off," it did not feel like he was getting "rattled." He was still waking up.

He did not know it was a crosswind landing. The landing was not unusual. It was not a "crappy landing." He noticed that the nose touched down soon after the mains. He could not see inside the cockpit. At first he definitely did not think, "oh there's a problem." He hoped that he was remembering all this right. "It's a little foggy."

Crosswind landings are trained in the simulator. pilots are trained to keep the wing down into wind while keeping the nose straight with the rudder. They keep the yoke into the wind throughout the landing roll. Typical crosswind velocity in the simulator is about 20 knots. They also talk about landing with flaps 35 and increasing V_{REF} speeds for wind gusts. Correct inputs, correct airspeeds, keep airspeed up if you need to. Good guidelines.

On approach to a crosswind landing, you "crab" until a certain altitude, then go to wing down a couple hundred feet above touchdown. Look down runway to keep the airplane aligned with the runway.

The view is limited from the jump seat. It was cloudy; he just woke up and could not tell if the wing was down or low. It would have taken a very strong crosswind for him to tell it was a crosswind landing. They "beat us up" in training about crosswind landings making sure the airplane is depressurized before opening doors and running checklists. The flight crew did a fantastic job keeping it on the "cement." He was very glad that the wind was taking fire away from cockpit, giving them some time.

He did not feel any side motion on landing. He would have noticed it if it had. If the nose had swung hard to the right he would have noticed it.

In the flare, he did not feel an increase in sink rate. Nothing unusual. During the shuddering, there was no side load. It was very intense and it felt like a car antiskid system operating. He could feel the pull on his seatbelt and it seemed to release with the release of brakes. The second brake application was much worse than the first. It was really intense the second time. No side motion. There was no specific time when he felt the airplane list to the left. There were no "pops or cracks," no sounds, only the intense shudder. He did not even feel it going off the centerline.

The crew did not say anything to him and he did not want to interrupt the crew. He knew what happened and he knew they were going to have to evacuate. He waited until the airplane was depressurized.

It was not difficult to egress. He just sat down and went down the slide. The first officer's window was cranked open and the rope was thrown out. "They were thinking." He was very impressed that they kept the airplane on the runway.

It seemed like it took forever for the fire department to show up. It seemed that way but they were probably quick. It was heartbreaking to see the cargo burn.

By the time they got past the centerline of the runway, he looked back and saw that the fire truck was there. They put out the fire really fast. Foam was everywhere. The wind took fire away from the fuselage and the freight. The fire truck approached the airplane from behind.

He first observed a couple of cars and then the first fire truck showed up. The first officer told the first fire car there was no DG on board. It was relayed very quickly that there was no DG on board. He asked the first officer if he got the pouch. The first officer said there was no DG on board.

The detailed DG form is kept in a pouch. It is a two-part form with one copy kept in the pouch and one copy kept at the station. The pouch is located on a bulkhead behind the first officer. He stated that they are trained well in DG procedures.

Interview:	Thomas R. Dockery, MD-10/11 Captain, FedEx Express
Represented By:	Darrell J. Green, Senior Contract Administrator, FedEx MEC
Date:	October 27, 2006
Time:	1100 CST
Location:	Teleconference
Present:	Operations Group, Travis absent

According to company records, Captain Dockery flew the accident airplane from AUS [Austin-Bergstrom International Airport, Austin, Texas] to MEM on July 27, 2006.

During the interview, Captain Dockery stated the following information:

His date of hire with FedEx is February 13 or 15, 1993. His estimated total flying time is about 6,500 hours, including about 3,000 hours total time at FedEx. He has about 1,300 hours on the MD-10/11, half as captain and half as first officer. He estimated that of the 1,300 hours, he had about 1,000 hours flying time on the MD-10 and about 300 hours on the MD-11. He stated that his company seniority limits him to mostly domestic flying and not much international flying.

He did not recall flying the accident airplane the day before the accident flight; therefore, he was surprised to get a call about an interview. He looked it up in his records and noted that he had flown it on July 27, 2006. He did not remember anything bad at all about the airplane. He further stated that if there had been something wrong with the airplane, he would have written it up in the maintenance log.

Some MD-10s have the steel brakes and some have the newer carbon brakes installed. He stated that he had just flown a MD-10 with carbon brakes installed to JAX [Jacksonville International Airport, Jacksonville, Florida]. The first officer thought the brakes were a little "grabby," but Captain Dockery thought they were okay, but perhaps a little touchy. He stated that airplanes with carbon brakes have a placard on the instrument panel stating, "carbon brakes, MAX landing weight 374,500."

He did not remember any specific flight that had carbon brakes or did not have carbon brakes. He stated that there is not a lot of difference between carbon brakes and steel brakes but carbon brakes may experience a little bit of touchiness, a little grabbing, but he had not given it much thought.

He used to work in the DC-10 training department teaching academics and the "front seat" in the DC-10 simulator before he was hired as a line pilot. He flew as a flight engineer on the DC-10 for about six months and was hired back as a "Flex" instructor teaching ground school and simulator. He was a flight engineer "Flex" instructor for about seven and one half years. He flew as a DC-10 first officer for six to six and one half years. He was dual-qualified as first officer and flight engineer.

He stated that he did not know the crew members involved in the accident on July 28, 2006, but he was aware that the captain had worked in the training department.

Interview:	Jeffrey W. Reed, MD-10/11 First Officer, FedEx Express
Represented By:	None
Date:	October 27, 2006
Time:	1120 CST
Location:	Teleconference
Present:	Operations Group, Travis absent

According to company records, First Officer Reed flew the accident airplane from MEM to AUS on July 27, 2006.

During the interview, First Officer Reed stated the following information:

His date of hire with FedEx is January 17, 1996. His estimated total flying time is about 10,000 hours (plus), including about 2,000 hours total time on the MD-10/11, split about 60/40 in favor of the MD-10. He stated that he has been flying the MD-10/11 for three years. Prior to that he was a first officer on the DC-10 for five years.

He stated that he remembered the accident airplane but he did not recall anything unusual about it. He stated that it did not handle any differently than any other carbon-brake airplane.

He stated that carbon brakes on the MD-10 are still getting broken in. They are a little firm, but nothing different from one versus the other. There is a little more braking force for the brake pedal pressure applied; they are more effective. He stated that, generally, he could not see a whole lot of difference from a pilot's perspective, between carbon brakes and steel brakes.

He stated that he had flown with the accident captain in the past. They flew together on two one-day trips, maybe a total of four legs. She is first rate, with great captain skills and flying standards. She is a good captain.

Interview:	John R. Usher, MD-10/11 First Officer, FedEx Express
Represented By:	None
Date:	October 27, 2006
Time:	1140 CST
Location:	Teleconference
Present:	Operations Group, Travis absent

According to company records, First Officer Usher flew the accident airplane from MEM to SEA on July 27, 2006.

During the interview, First Officer Usher stated the following information:

He did not remember that specific aircraft, the accident aircraft, or anything abnormal about it.

His date of hire with FedEx is June 11, 2001. His estimated total flying time is approaching 7,000 hours, including about 1,000 hours or less total time on the MD-10/11. He stated that he has been flying the MD-10/11 for just over two years. He thought that his IOE was in September 2004.

He did not recall anything abnormal about the accident airplane and honestly could not remember the captain he flew with at the time.

Regarding steel versus carbon brakes, he stated that carbon brakes tend to be a little stronger, but nothing out of the ordinary. He stated that of the various airplanes he has flown, he probably could not tell the difference, if he did not see the placard. Once you get used to the feel of the brakes he did not think you could tell the difference.

He did not know the accident pilots.

Interview:	David Washatka, MD-10/11 Captain, FedEx Express
Represented By:	None
Date:	October 31, 2006
Time:	1140 CST
Location:	Teleconference
Present:	Operations Group

According to company records, Captain Washatka flew the accident airplane from MEM to AUS on July 27, 2006. He stated that he actually flew it twice that week. He landed the airplane on the MEM-AUS leg. He also flew it on July 19, 2006, on the same leg but he did not perform the landing that time.

He remembered the accident airplane because it was the first airplane he flew with carbon brakes. In general, carbon-brake airplanes are "touchy" and that airplane was "touchy." It flew fine and it landed fine. The landing he made was on a long runway and he did not get on the brakes much. Other than "touchy" brakes, the flights were perfectly normal. "Touchy feel" is indigenous to carbon-brake airplanes. Both flights were fairly normal and the airplane did not stand out in any way.

After flying several airplanes with carbon brakes, he has noticed that they grab more than airplanes with steel brakes. If he did not see the carbon-brake placard in an airplane, he could not say unequivocally that the airplane had them. If you just got in an airplane, you could not figure out if they had them or not.

He knew the accident captain but not the accident first officer. He never flew with either of them. He flew with the accident captain's husband and he met the accident captain a couple times when flying with him, but it was just in passing.

His date of hire with FedEx is September 23, 1985. His estimated total flying time is about 15,000 to 16,000 hours, including about 1,200 hours total time on the MD-10/11. He stated that he has been flying the MD-10/11 for one and one half years. He did not know what the breakdown in MD-10 hours versus the MD-11 hours would be.

He never ran into the accident captain when she was in the training department. He has had few problems while flying at FedEx. He stated that he has led a charmed life; a few fluctuating oil pressures and that is about it.

Interview:	Gerry Twombly, MD-10/11 Captain, FedEx Express
Represented By:	None
Date:	October 31, 2006
Time:	1155 CST
Location:	Teleconference
Present:	Operations Group

According to company records, Captain Twombly flew the accident airplane from MEM to AUS on July 27, 2006.

During the interview, Captain Twombly stated the following information:

His date of hire with FedEx is March 1990. His estimated total flying time is in the 15,000 hours range, including about 900 hours total time on the MD-10/11, split about 60/40 in favor of the MD-11. He stated that he has been flying the MD-10/11 since April 2005. Prior to that he was a captain on the DC-10 for four years.

He did not recall anything about flying the accident airplane; nothing extraordinary that he remembered at all. He remembered flying it into SEA that afternoon. Then the airplane turned and flew back to Memphis. Nothing about that flight sticks out in his memory at all.

Carbon brakes installed on MD-10s are few and far between. He only recalled one and that was on a MD-10-30. Carbon brakes are definitely “a step up.” They are better brakes; they feel better. Braking action is noticeably better with carbon brakes. They are a little more responsive and it was his sense that you do not notice “fading” as much with carbon brakes compared to other brakes.

He never flew with the accident captain and he did not know the accident first officer.