

Attachment 1

To Operational Factors / Human Performance Group
Factual Report

DCA17MA022

Crew Interview Summaries

Interview Summaries

Interviewee: Kevin Phillip Lucas, MD11 First Officer, FedEx

Represented by: Terrance McTigue, ALPA legal

Date: October 30, 2016

Location: Residence Inn Meeting Room, Dania Beach, FL

Time: 1000 EDT

Present: Marvin Frantz, Katherine Wilson – NTSB; Brian Flax – FedEx; Stacy Horn – ALPA; Harold “Chip” Sieglinger – Boeing

During the interview, Mr. Lucas stated the following:

He started taking flight lessons in college and got a private pilot’s license in 1989. He then was commissioned in the US Navy and went to Navy Flight School. He flew the E2 during a fleet tour, then had follow on orders to fly the T2 Buckeyes in Meridian, Mississippi. After that he was a reservist and flew the T2 and T45 until he retired in 2014. He flew as a flight engineer at American Airlines from 2001 until 2004 when he was hired by FedEx as a professional flight instructor. In 2007, he became a flight engineer on the B727 for 5 years. In 2012, he trained in the MD11 and had been on that airplane for the last 4 years. He estimated his total time to be about 6000-6300 hours, with about 4000 hours as pilot in command (PIC). He estimated his flight hours on the MD11 at about 400-500, no PIC time.

On the day of the accident, the flight departed MEM on schedule. They departed on runway 18L. It was a pretty uneventful takeoff, climb out and en route portion of flight. It was a typical FedEx flight to Florida with clearance directs and shortcuts. Mr. Lucas was the pilot flying and briefed the approach prior to the top of descent. They came in on the arrival and were cleared to the initial approach fix for the ILS to runway 10L. There was a lot of traffic ATC so slowed them down; they were slowed down to their approach speed and fully configured 7-8 miles out. Gusty winds were forecasted so he included that in his brief and took the appropriate steps to handle that. They were fully configured early so they were stable early. He had the field in sight at 1000 feet so he disconnected the autopilot and the flight was stable at 500 feet. The callout was “stable, AOA, checked good.” At 200 feet, he started to execute a crosswind correction of right rudder and left wing down. He had briefed that he would disconnect the autothrottles at 100 feet and so he clicked them off at the 100-foot call. At 50 feet, he initiated the flare and touched down on the centerline in the touchdown zone, slowly lowered the nose using the appropriate technique, and deployed the thrust reversers. As they were rolling down the runway, the captain told him it was probably time to start braking because the airplane did not have autobrakes. He applied the brakes gently because they sometimes “grab,” he immediately heard a “bang” and the airplane yawed to the left; he tried to maintain the centerline with right rudder and braking. He initially thought a tire had blown but with the airplane listing to the left it seemed like more than that. The captain said they collapsed the left gear and took the controls. Mr. Lucas stayed on the controls to back up the captain. The airplane lost rudder authority, drifted left and stopped near the A4 taxiway, pointing at the

glideslope antenna. The captain told him to make an emergency call to the tower. There was a lot of chatter as the tower was waving other flights off but he got through to them. At that time, the captain looked out the window and saw the fire trail down the runway and smoke. The captain said they were on fire and needed to get out so to do the evacuation checklist. They executed it, making sure everything was turned off. Mr. Lucas got out of his seat to figure out which exit to use. He knew they could not use the left and asked the captain if he should blow the door. He thought with the listing and wind that the slide might blow under the wing but as a first officer, he wanted to ask the captain for his decision. They then felt and heard the explosion. The captain said they needed to get out of the airplane now so Mr. Lucas went to the window and opened it. The captain got the ropes and also handed Mr. Lucas a pair of leather gloves; the captain used the rubber gloves. Mr. Lucas went out first and slid down the rope then waited for the captain to come down. They stood there looking at the scene and then the firefighter directed them to a waiting ambulance.

There were no warnings or alerts at any time after touchdown.

At touchdown, the left main gear was down first. The winds were 050 at 18 knots gusting to 23 knots. His correction for the wind was right rudder in and left wing down. It was a firm landing, not a greaser, but nothing out of the ordinary. He did not notice any debris on the runway after touchdown.

The airplane had an MEL for the #1 pneumatic system inoperative. It was already on the airplane and they complied with it appropriately. He did not recall anything else in the maintenance logs.

He thought the runway might have been damp from earlier rain but did not appear wet at landing.

He used flaps 35 for landing. He did not recall the speed at which he applied manual braking. Ground spoilers were used and braking commenced after deploying the thrust reversers.

He was tested for drugs and alcohol by providing a urine sample and breathalyzer.

On the landing roll prior to the gear collapse, there was no unusual vibration; it was just a normal sequence of events.

There were no issues noted with gear retraction or extension during the flight. He did not perceive a bounce at landing and said the captain did not either.

He had experienced a blown tire before on an E2; it was a “pop” on a touch and go. He had not experienced a blown tire on an MD11.

His initial thought was that they had blown a tire but as it sunk in his brain realized the airplane was listing too much for a tire failure. Then the captain mentioned the gear failure. He was not sure what part of the wing or engine was touching the ground; there was not really enough time to think about that. He was more thinking about what was happening and how to keep the airplane on the runway as best they could. He did not recall hearing a dragging sound after the collapse but thought the listing they were experiencing was similar to what he had experienced in the simulator with a blown tire scenario. He recalled noise but could not characterize it as any specific sound. He was sure there were aural alerts sounding but did not recall them. The initial bang he heard sounded metallic but was somewhat muted because it was outside the airplane.

The first indication of a fire was when the captain looked out the window and saw the trail down the runway.

He rated the difficulty of the landing on a 1 to 10 scale (10 being most difficult) as a 5 or 6; it was a challenge but they did not have a direct crosswind.

He supposed the brakes were working after the airplane listed, but said the brakes did not go to the floor. It felt like the brakes on the right were still working but could not give a good assessment.

When taxiing to the runway at MEM, he did not notice the brakes grabbing.

He felt that the airplane was aligned with the runway at touch down. He had the FPA (flight path angle) on his side which he glanced at when the flight was between 500 and 200 feet; it was not way out to the right and he added right rudder which he felt was sufficient and aligned the airplane with the runway.

He did not sense any lateral shifting at touchdown.

He characterized the lowering of the nose as slow. He was judicious with that, slowly lowering the nose down after making sure the mains were on the ground and rolling.

When completing the evacuation checklist, he did not recall any of the fire engine handles blinking but when he tried to secure the #1 fuel lever it only came down halfway like the linkage was messed up.

He pulled the fire handles and assumed the captain did also. Mr. Lucas pulled the APU and made sure the outflow valve was open. Mr. Lucas was reading the checklist and the captain was doing his items.

Regarding how to evacuate, the left side was a nonplayer because of the fire. Based on previous accidents and the wind, he thought if they tried to use the slide there could be a problem. Up until the explosion, the crew performed the evacuation checklist not as an “academic event” but they had practiced it in the simulator so they went through the procedure as trained. There was urgency but they made sure they were going through the steps. After the explosion they realized their lives were in danger and needed to egress. The captain’s call was to go out the window and Mr. Lucas agreed that was probably their best option.

The escape rope did not touch the ground. He did not remember where he jumped off the rope from but thought it stopped maybe 6-8 feet above the ground. He slid down and when he was below the fuselage at some point, he felt okay to drop. The gloves kind of helped and once he put his full weight on the rope he just started sliding. The gloves kept his hands from getting burned up and slowed his descent down the rope. The rubber gloves worked well for the captain too who only got a little burn on his hand at the end.

He briefed the winds included on the ATIS which were 15 knots gusting to 25 knots; he added the 10 knot gust to Vref in the FMS speed. He briefed when he would start aligning with the runway

so the captain could tell him if he was not doing it and also briefed that if they had to go around they would do so.

At no point did he feel the bottom drop out.

He briefed that they would use flaps 35 because of the gusty winds and would disconnect the autothrottles at 100 feet. Because of the gusts, he added Vref plus 10. He would start the flare at 40-50 feet because of their weight and would align the airplane somewhere around 200 feet. He asked the captain in general to back him up and call things out to which Mr. Lucas would react appropriately.

He thought the approach speed was 155 knots.

He confirmed that his alignment with the runway was wing down into the wind and right rudder and that they landed on the left main gear.

From main gear to nose gear touchdown was about 2 degrees per second, so it probably took about 2-3 seconds. Vref was 145 knots so with 10 knots added, Vapp was 155 knots.

The speed at which they should cross the threshold plus 5 minus 0 knots and felt they were on that during the landing.

He did not recall any significant shift in the winds from the threshold to touching down.

During the approach below 1000 feet, the gusts could be felt and he saw the speed trend fluctuating. If they had not heard the winds from the ATIS, they would have known it was gusty.

The landing was challenging but not too hard.

Training for crosswind landings was done in “baby steps.” They started with a crosswind of 10 knots, then winds 15 gusting to 20, then 25 gusting to 30 and sometimes up to 30 gusting to 35. In initial training, it was trained 25 knots with 30 knots crosswind and thought the winds were 20 knots gusting to 25 in recurrent training.

He thought they got through the entire evacuation checklist and used the checklist on the back of the QRH.

It had been awhile since he had flown into FLL and he had no issues or concerns about flying in or out of the airport.

He tried to use low to medium manual braking.

When he briefed how he would align with the runway, it was that the maneuver would start at 200 feet.

He did not recall but thought they touched down 1500-2000 feet from the threshold.

There was no urgency to get on the brakes.

On Tuesday, October 25, 2016, he woke up in El Paso, Texas, about 0600 for a 0630 show time in the lobby. He flew to MEM. They had issues with maintenance coming out of El Paso so they

were late getting back to MEM. He had a 2 hour and 30-minute turn in MEM so he did not go home. He got a sleep room, went for a 3 mile run, and showered. He had a show time of 1400 and flew to Sacramento. His parents lived about an hour from Sacramento so he rented a vehicle and went to their house. He arrived at their house about 1830-1900, had dinner, hung out with them and went to bed about 2200-2230 PDT.

On Wednesday, October 26, he woke up about 0800, went for a jog and hung out with his family. After having brunch, he relaxed until about 1600 when he left for the airport. The crew met at FedEx, briefed the flight, and flew back to MEM. They arrived about 1245 on Thursday AM and he arrived home about 0130-0200.

On Thursday, October 27, he did not get to sleep long and woke up about 0700 because workers arrived at the house. He did routine activities around the house that day and after dinner was probably in bed about 2230. His son came into his room about 2330 and Mr. Lucas moved to a guest room upstairs.

On Friday, October 28, he woke up about 0700, exercised and then did routine activities and errands. He got home about 1245 and got ready for work. He arrived at the AOC at about 1320, and hung out with his brother who was on reserve. He met the accident captain at the trip folder about 1345.

He typically woke up several times throughout the night. He would not wake up feeling “ultra-refreshed” but felt good when he was up and about. He did not normally nap unless he was really tired. When not working, he typically went to bed between 2300-0000 and woke up around 0730-0800. He tried to get 7-8 hours of sleep when not working. He usually fell asleep about 30 minutes after going to bed.

He was enjoying this trip and picked it up because he knew who the captain was.

He had not seen a doctor for or been diagnosed with a sleep disorder.

He had never been involved in any previous accidents or incidents. He received commendations in the military for his performance – medals and instructor of the month awards. A trainee at FedEx had sent a note to the training manager saying that he had done a good job in the simulator. He had never been disciplined for his performance.

He had been involved in “little” emergency/abnormal situations on the B727, had experienced engine failures and a blown tire in the military, and had an unsafe nose gear indication in flight school; all of those instances worked out okay.

In the past 12 months, he had not had any changes (good or bad) to his health or financial situation. In the past few months, an in-law had passed away and the family dog was undergoing treatment for cancer which were semi-stressful but it was nothing that he felt was distracting.

He characterized his health as excellent. He had no issues with his vision or hearing. He occasionally took vitamins and baby aspirin. He drank occasionally and thought he had 1 beer when visiting his family near Sacramento. He did not use tobacco products or illicit drugs. He did

not have any medicine, prescription or nonprescription, in the 72 hours before the accident that might have affected his performance. He thought he had baby aspirin and a couple of Advil for aches and pains.

He characterized the workload during the accident flight as average and said everything happened at a good, easy pace. They were slowed down pretty far out, and while he got a “little keyed up” on the approach because of the winds the pace was standard.

The only issue he had communicating with ATC after the event was trying to get a word in. He just told the tower what happened and then got back to doing stuff in the cockpit. He did not recall if the tower responded.

He liked working at FedEx; it was a great job and he worked with awesome people. He had no issues besides not knowing “what the path” was. There were no external pressures from the company that compromised safety and he recalled that the company handled the situation well when he was in a car accident driving in to work one day. Regarding external pressures from his personal life, he liked to think that he could compartmentalize his life.

The commute from his home to MEM was about a 25 to 30-minute drive.

The captain was awesome, very professional and “cool, calm and collected” during the evacuation.

Mr. Lucas felt rested when arriving for duty on Friday and also during the accident flight.

The captain seemed alert during the flight.

He had previously flown with the captain when Mr. Lucas was a flight engineer on the B727 and thought they had flown together previously on the MD11. He and the captain had a mutual friend and had a good rapport from the start.

He thought the captain was one of the best that he had flown with. His greatest strength was his ability to promote good CRM and being professional. He could not think of any ways for the captain to improve and had not heard anyone complain about flying with him.

The technique Mr. Lucas used on landing to correct for the crosswind was how it was trained.

He mostly flew MD11s and MD10-30s. His last few flights were in the MD10-30 and he did not fly the MD10-10 so much.

He did not have anything else to add to the interview.

Interviewee: William Ross Pope, MD11 Captain, FedEx

Represented by: Terrance McTigue, ALPA legal

Date: October 30, 2016

Location: Residence Inn Meeting Room, Dania Beach, FL

Time: 1150 EDT

Present: Marvin Frantz, Katherine Wilson – NTSB; Brian Flax – FedEx; Stacy Horn – ALPA; Harold “Chip” Sieglinger – Boeing

During the interview, Captain Pope stated the following:

He began flying privately in 1982, enrolled in a formal college with a flight training program in 1988, received all of his ratings and earned a bachelor’s degree from that program. Early in his career, he worked as an on-demand charter pilot, a flight instructor, and as a pilot for Express Airlines One (dba Northwest Airlink). Later he flew twin Cessna aircraft, King-Airs, and Learjets as a corporate pilot for 9 years. He joined FedEx in 2000. At the company, he has worked as a flight engineer in the B727 for 2 years, as a first officer in an Airbus for 3 years, a B727 captain for 8 years, and had been a captain on the MD11 for 4-5 years. He had a total flight time of about 10,000 hours, and was not sure of his time as PIC, and thought he had about 1500 hours on the MD11.

On the day of the accident, he recalled having a normal day in Memphis, arriving about 15 minutes before his scheduled show-time of 1345. His review of the flight paperwork and release was normal. The crew went to the airplane which had one MEL for the pneumatic system in effect for the aircraft. This MEL had limited operational effect and no apparent relation to the accident. The flight pushed from the gate in Memphis about 6 minutes early, and the departure and en route stages were normal. The weather was quite good between MEM and the panhandle of Florida. They did their normal briefings. He was the pilot-monitoring for this flight, so the first officer briefed the arrival and approach. The flight was slowed quite early by ATC due to traffic in the area. They extended the slats about 30 miles out and it was normal operations. On the approach (an ILS) the plane was configured for a flaps 35 landing by 1000ft AGL. The first officer briefed the winds and because of reported gusts, added an airspeed adjustment to the Vref speed per the company flight manual. The approach was stable at 500 feet AGL, on localizer and glideslope. Their airspeed was $V_{app}+5$ which was within their parameters. As they continued on the approach, the first officer was making timely airspeed corrections for the gusts. Capt. Pope was backing him up by keeping his hands behind the throttles to assist him if needed or if a go around call was needed. The crew had visually acquired the runway at around 1500 feet, but continued on the ILS approach path. The speed over the threshold was $V_{ref} + 10$, which included the 10 knots extra speed that was added because of the wind gusts. Capt. Pope was looking through his Head-up Display (HUD) and the path guidance and flare indications on it looked good. The first officer disconnected the auto-throttles at 100 feet as briefed, and his flare and crosswind correction put in

about 200-300 feet AGL were good. The first officer did not break the three rules for landing this airplane: no large control inputs close to the ground, no late flare, and no rapid de-rotation. The aircraft touched down in the touchdown zone, on the center-line, with the left main gear (the upwind gear) touching down first. The roll-out was normal, spoilers deployed and the first officer applied reverse thrust. About halfway down the runway, he suggested that it was time for the first officer to begin braking (this aircraft did not have autobrakes). As the first officer applied the brakes, there was a noise as best he could remember then aircraft tilted to the left, began veering to the left. He could not see behind him to the wing but could tell from his outside reference that the airplane tilted. He knew something was wrong and that the first officer was having trouble maintaining control. He took control of the aircraft and applied full right rudder but it did not have any effect and the airplane continued heading left. After the aircraft stopped just off the left side of the runway, it was canted 30-40 degrees off runway heading. He looked back and noticed a fire trail extending along the aircraft's path on the runway, and realized they were in immediate danger. He told the first officer to call the tower and he told them they were in trouble and to roll the equipment. He was certain the tower saw the fire too. He decided to call for an evacuation. They completed the evacuation checklist and were standing up when they heard an explosion. Capt. Pope tried to blow the fire bottle on the left engine but did not get a light. He figured it was a moot point by then and pushed the battery button. He decided that they needed to get out of the aircraft now, and told the first officer they should evacuate through the first officer's window, using the escape rope. He grabbed two pairs of hazmat gloves, one rubber and one leather, while the first officer opened the window, and gave one pair to the first officer. The gloves were located in a bin behind the captain's seat. He followed the first officer out the right window and down the rope. There were no issues with the egress. He suffered a minor cut exiting through the window on his right hand and a rope burn on his left hand, but no other injuries.

He recalled that after the airplane came to a stop, he could tell the fire was trailing down the runway to the left wing but he could not tell it was at the airplane.

Prior to the list and veer on the runway, there were no aural or visual alerts or warnings. After the noise and list, he did not recall any warnings, but may have been too distracted to be aware of them. Later, after they had stopped off the runway, he noticed that the fire warning for the left engine was lit. He pulled the fire handle down and blew the #1 bottle; he twisted the handle to the left and this was after the airplane stopped.

He did not remember any unusual sounds or vibrations prior to the listing. The touch down seemed normal and he thought it was a good crosswind landing touching down on the upwind main gear as trained. They certainly tried to have a "squeaker" but it was a firm landing in the touchdown zone. He did not notice a bounce after touch down.

There were no autobrakes on this airplane, the ground spoilers deployed, and thrust reversers extended, and it was during that time that the pilot flying would apply brakes. His callout to apply the brakes was not a standard callout. Typically, the pilot flying would apply the brakes before he

called for it. When brakes were applied, there was adequate stopping distance. His feet were on the brakes with the first officer and he thought it was a normal brake application.

He thought they came off centerline and he noticed the listing about 2-3 seconds after brake application. He thought the noise was just prior to the listing of the airplane, but he had a vague memory of the sound and could not characterize what type of noise he heard or further describe what he heard. His recollection was fuzzy.

The first officer did the walkaround in MEM and did not mention any issues with the gear or tires.

The crew was tested for drugs and alcohol after the event.

The MEL was for the #1 bleed system and required the crew to complete a checklist after the engines were started for operations. It was a routine MEL.

The captain was trained to land using the HUD, even on visual approaches.

He thought the airplane had rolled about halfway down the runway or about 3-4 seconds after touchdown when the event occurred.

During the up and down cycling of the gear on this leg, he did not notice any unusual sounds or vibrations. He characterized the crosswind challenge of this particular landing as a 4 out of 10, with 10 being the most difficult.

He was not sure if the first officer had come out of reverse prior to the listing event. He thought probably not though, as the reduction of reverse thrust began at 80 knots, and they were faster than that. He had not noticed any debris on the runway before the accident. The runway was dry.

He had not noticed any “grabiness” of the brakes as he taxied out during departure from MEM. There was no lateral movement of the aircraft upon touchdown on the upwind (left) gear; they were pretty straight and it looked like a good crosswind landing. Everything looked normal. The first officer had lowered the nose after touchdown at a normal rate, about 2 degrees per second; it took maybe 3 seconds to lower the nose. It was a nice, measured de-rotation. There were no unusual noises or vibrations during the rollout after touchdown. He was not sure what speed they were at when he suggested to the first officer that it was time to start braking; he was not concerned but it was just time to start to stop the airplane. They touched down at about the 1500-foot point on the runway. He did not recall how much reverse the first officer commanded.

When planning the evacuation, he had ruled out exiting on the left side of the airplane because of the unknown fire danger, and ruled out right door emergency slide exit because of unknown damage or fire effects. He thought the window exit on the left was the only good option. He did not know how far above the ground that the rope stopped. The emergency vehicles arrived surprisingly quickly.

The crosswind correction was timely. Capt. Pope used the HUD uncaged, one time he corrected the approach by requesting the first officer apply more right rudder. After the correction the airplane was good; the bottom did not fall out and it looked appropriate in the HUD. It was maybe a couple of degrees off runway heading after the correction.

He thought the application of brakes was at a normal rate and normal time and the deceleration was normal. The landing weight on the release was 350,000 lbs.

The aircraft was at a speed of $V_{ref} + 10$ at the threshold crossing.

There was no braking before the halfway point of the runway; the airplane was de-rotated and they were using reverse thrust. For a long runway, it was somewhat normal. They touched down somewhere around 1500 feet. His perception was that the main gear went when braking was applied.

He thought the noise was coincident with the onset of braking. Though he had his hands near the throttles during landing and reverse thrust, he did not need to touch them.

He did not know if the tower responded to the first officer's call following the event.

The explosion occurred when they were out of their seats after the aircraft had stopped, and were getting ready to evacuate. When he heard the explosion, he increased the urgency of the evacuation process. They needed to get out now. He grabbed the hazmat gloves and both exited the aircraft through the window.

Normal callouts during a landing are 500 feet, stable (or unstable and identify the condition), spoilers deployed, 80 knots, and 60 knots. Also any deviations are called out. He thought any deviation required a go around; decision region was what it was called for a precision approach. He made the spoilers callout; there was no callout for thrust reversers. During this approach he felt the crosswind was not too "heavy." They trained for a maximum crosswind landing. He experienced a crosswind in maybe one out of ten landings. He had flown into FLL before, and was familiar and comfortable operating into this airport. He did not recall the last time he flew in and out of FLL.

He had a moderate workload on the approach. ATC's workload was high, which translated to an increased workload for him as the captain and pilot monitoring. After they had been handed off to FLL tower, his workload went back to a more normal state.

On Tuesday, October 25, 2016, he was off at home and it was a normal day. He went to bed around 2200 CDT.

On Wednesday, October 26, he woke up around 0430 or 0500. He was off this day also and it was a typical day.

On Thursday, October 27, he woke up around 0700, had coffee and breakfast, then drove to Memphis for a 1445 show time; the flight was scheduled to depart at 1545. He flew to MCO, where he had a 13-hour layover.

On Friday, October 28, he woke up about 0630-0640 EDT. He was picked up at the hotel 0740 for a show time of 0808. The flight departed at 0908 to MEM. The scheduled arrival time was 1013 with an on-duty hub turn. He had a show time of 1345 CDT for a 1445 departure to FLL in the accident airplane.

He normally slept well, and sometimes woke up to go to the bathroom. He had no sleep issues in the 72 hours prior to the accident flight and felt good the morning of the accident. He had a normal schedule for the few days prior. He typically got 6.5 hours of sleep, and felt rested when he woke up. He had never seen a doctor about or been diagnosed with a sleep disorder. He would fall asleep pretty quickly, in about 10 minutes after getting in bed.

He sometimes napped and thought he took a nap or two in the days before the accident when he was home. He did not nap during the hub turn prior to the accident flight. He did not secure a sleep room. He did have lunch and a caffeinated beverage.

He had been involved in an accident previously when the main landing gear on a Cessna 210 had failed to extend but the nose gear was down. It was classified as an incident, and a mechanical problem, not pilot error. He had never been disciplined for his performance, and had received no "gold stars" for high performance or achievement. He had had other emergencies including an engine fire indication and a cracked case prior to FedEx, and an oil leak which required a cautionary diversion while at FedEx.

He had no major changes (good or bad) in his financial situation or personal life in the past 12 months which might have affected his performance.

He was in good health. He wore reading glasses, and thought he was wearing them at the time of the landing. He had no issues with his color vision or hearing.

He took 5 mg of lisinopril and 50 mg of atenolol daily for high blood pressure, and 40 mg of simvastatin daily for cholesterol. He took these medications in the mornings and had no side effects; he took them the morning of the accident. The medications were not listed in his FAA paperwork. He did not take any supplements. In the 72 hours prior to the accident, he did not take any medicines, prescription or nonprescription, that might have affected his performance.

He last consumed alcohol, a beer, at dinner in Orlando the night before the accident flight. He did not use tobacco or illicit drugs.

He liked working for FedEx and never felt pressure from the company to accomplish a flight. There were no external pressures from his personal life that affected his performance.

He had previously flown with the first officer. Mr. Lucas was in the top 50% of first officers he had flown with. His greatest strength was his personality, and there were no glaring areas that needed improvement. He had never heard anyone have any concerns about flying with the first officer.

All of his simulator training included crosswind landings.

The technique the first officer used to correct for the crosswind was as trained. He would say the first officer maintained crosswind control. He did not remember if the first officer had held upwind aileron after touchdown.

Capt. Pope had no model of the MD10/11 that he was most comfortable in. He flew all of them and it was just how they did things domestically.

He guessed that the aircraft had traveled 1500- 2000 feet after the collapse of the gear before coming to a stop.

He had nothing to add to the interview.