Attachment 1

to Operations Group Factual Report

DCA11FA084A/B

INTERVIEW SUMMARIES

Contents

A. INTERVIEW SUMMARIES

1.0 Interview: ASA accident First Officer (F/O) Eric Sellers
Interview date: August 1, 2011
Time: 1100 EDT
Location: Delta Airlines Headquarters, Atlanta, GA

Present were: David Tew, NTSB; Eric West, FAA; Bill Meacham, ALPA – Atlantic Southeast Airlines (ASA), Chris Avery, ASA; John Parsons, ALPA- Delta Airlines (DAL), Curt Adamek, DAL

F/O Sellers was represented by Terry Saturday, ALPA

During the interview F/O Sellers stated the following information:

- He was asked to give a 72 Hour history: Accident occurred on July 14, 2011
    - 7/14/2011 - Woke up at about 0930 and commuted from Panama City, FL at 1100 (Central Time) for a 1400 report did not recall any sleep problems that night
    - He said the two earlier days were too long ago and he had no recollection of all activities but they were normal days at home
- Date of hire at ASA was: 11-14-05.
- Total flight time: about 6,000 hours.
- Pilot-in-command time: about 2,200 hours.
- CL600 flight time: about 1,700 hours.
- Flight time last 90 Days: 160 hours.
- Flight time last year: 800 hours.
- Date of last checkride: 2/2011.
- His Air Transport Pilot written test had been completed.
- ASA was his first airline job. He could hold a captain's position at ASA but elected to remain as a First Officer (F/O) to stay in his current home location.
- He had no previous accidents, incidents, or violations.
- Held a current 1st class medical with no limitations.
- Medications: took Advare for asthma.
- No sleep problems (no sleep apnea).
- Commutes from Panama City, Florida.
- After initial flight training at ASA, he moved to ATL and worked as a flight instructor for 3 ½ years.
- He had failed one commercial check ride for soft field landings.
- No training problems at ASA.
- Flew with Captain Jewells 3 or 4 times before accident.

- Captain Jewells was very professional, had good CRM and was easy to communicate with. F/O Sellers felt as though he could speak up when he wanted to.
- Crew deadheaded ATL-DCA; they then operated flight 5279 DCA-BOS on ship N713EV; then operated BOS-RDU on N132EV as flight 4904.
- F/O stated that he submitted an ASAP report.
- Events on the day of the accident: [Read from his ASAP[1] report]
    - ASA Flight 4904 taxied from gate A-19 to spot 2 and contacted ground control.
    - Ground control instructed to taxi via Kilo taxiway, then hold short of Alpha taxiway (while they were holding, there was a lot of traffic crossing 4L), then turn right on Bravo taxiway and hold short of runway 4L approach, then taxi via Bravo taxiway to Mike taxiway, then monitor tower frequency 128.8. Taxied to runway 9 via Bravo taxiway and Mike taxiway.
- They turned left on Bravo taxiway and held short of the runway 4L centerline then taxied to Mike taxiway and switched to tower frequency. When stopped, they were behind two other airplanes holding north on Mike taxiway. ATC [air traffic control] was positioning airplanes on both the North side and South side of runway 9. No one was landing on runway 9.
- They lined up on the Bravo taxiway centerline about 20 feet behind the 2nd airplane holding on Bravo and were stationary with the parking brake set. All three airplanes holding short of runway 9 had normal spacing. F/O Sellers believed they were number 3 for takeoff on runway 9. In front of them was ship 713 (ASA Airplane) and in front of 713 was an Airbus 319 possibly Cactus.
- They were not on the same frequency as Delta 266 but F/O Sellers noticed the Delta B-767 on Bravo rounding the taxiway corner and it appeared the B-767 was, "moving faster than normal" which got his attention. There was no concern as he did not think they would hit, but they were closer than normal.
- F/O Sellers said he would have spoken up if he thought the B-767 was going to hit them. The captain stated, "I hope he doesn't hit us" in a joking manner. F/O Sellers characterized it as a "ha ha statement".
- F/O Sellers stated, "no thoughts of moving, nowhere to go." The captain did not say anything about moving the airplane.
- F/O Sellers stated, "I was surprised that he hit us." It did not feel like the airplane moved, it felt like someone had kicked the back of your seat.
- After the collision, it looked like Delta 266 might be continuing to take the runway. F/O Sellers tried to call the tower controller to make sure the B-767 did not take off. He made

[1] Aviation Safety Action Programs - these programs were intended to provide air carriers with the opportunity to identify and report safety issues to management and the FAA for resolution without fear of punitive legal enforcement action being taken.

3 calls to ATC with no response. Delta 266 finally got through to ATC and said they may have made contact with the RJ.

- Captain called the F/As and asked if anyone was hurt and also made a public address (PA) announcement for the passengers to stay seated. F/O Sellers said he was not sure in which order this happened.
- F/O Sellers noticed a Rudder Split and a Master Caution (light). Captain finished PA and began to evaluate the problem. Next appeared the HYD 1 LO PRESS amber message with master caution light. F/O Sellers pulled the quick reference handbook (QRH) out for the HYD 1 LOW PRESS procedure.
- Halfway through the procedure, they got a HYD 3 LO PRESS amber message and master caution. The Captain called for the dual (HYD 1 & 3 LO PRESS) checklist. Checklist was performed by the F/O. He read it aloud and did the procedures.
- F/O Sellers sorted through the parts of the QRH to pick the pertinent parts (eliminating the flight portions).
- He heard Delta 266 call for emergency response. The ASA crew also called for emergency response as well.
- F/O Sellers stated that crash, fire, and rescue (CFR) personnel responded in less than 10 minutes (he thought they may have been responding to another emergency).
- They waited for a damage assessment from emergency response personnel for a possible tow back to the gate with passengers on board.
- After emergency response personnel made their assessment, F/O Sellers went to look at the damage (with the captain's permission). He told the captain what he saw and asked for chocks. They kept the #2 engine running until they were chocked to ensure brake pressure. The auxiliary power unit (APU) was not started due to tail damage.
- The F/O was surprised by the extent of damage because it did not feel that way when they were hit. Hydraulic fluid was leaking (this was pointed out by the emergency response team). The spill from the hydraulic leak was about 10 feet in diameter but was not under the airplane. F/O was taught that hydraulic fluid was hard to put out if on fire, and it was also corrosive and toxic. The hydraulic fluid spill was contained by the emergency responders. Passengers were kept away from the hydraulic spill. F/O noted that this area had no fuel lines.
- F/O did not see any need to evacuate airplane due to their location and jet blast. The emergency responders did not say to get the passengers off the airplane.
- They waited for buses after emergency responders said it was OK for passengers to get off. It took about 25 minutes for the buses to show. F/A told crew about one passenger who complained of neck pain (possibly due to a pre-existing condition located in row 17) and needed assistance. The passenger was taken off the airplane on a spinal board after the rest of the passengers had disembarked.
- Captain remained on board and did not leave until the passengers deplaned. Passengers deplaned through the main cabin door. Crew stayed with the plane.

- Captain's phone battery was dead so F/O used his phone to talk to Chief Pilot Fuad Malik to tell him what was going on. Captain was interviewed over the phone by the chief pilot.
- Chief pilot then told the captain to keep the crew together and stay with the airplane. They were told to wait until FAA or NTSB approval to move the airplane.
- The crew ran the shut down checklist and F/O pulled the CVR [cockpit voice recorder] circuit breaker.
- All communications after the accident were conducted on frequency 121.7. He heard Delta say, "roll the trucks," both on TWR frequency and 121.7.
- Comair maintenance showed up to see if airplane could be towed.
- # 2 Hydraulic System was OK.
- No one was on the cockpit jumpseat.
- He did not get any wingtip clearance training at ASA.
- Did not see anyone land on runway 4L.
- Massport personnel showed up first; crew thought they were the emergency response team.
- Both ASA pilots were drug tested.
- Recommendations from Eric Sellers:
    - Taxi on south side of BOS is very complicated and maybe wide bodies should not use taxiway Bravo
    - ATC should never ask crews to "hurry up."

2.0 Interview: ASA accident Captain Daniel Todd Jewell
Interview date: August 1, 2011
Time: 1330 EDT
Location: Delta Airlines Headquarters, Atlanta, GA

Present were: David Tew, NTSB; Eric West, FAA; Bill Meacham, ALPA – Atlantic Southeast Airlines (ASA), Chris Avery, ASA; John Parsons, ALPA- Delta Airlines (DAL), Curt Adamek, DAL

Captain Jewell was represented by Glenn Edward Wickline, ALPA

During the interview Captain Jewell stated the following information:

- <u>He was asked to give a 72 Hour History:</u>
    - July 14, 2011 - Good night sleep the night before
    - July 13, 2011 - Two leg commute from Lubbock, TX. He stayed in a hotel in ATL

- July 12, 2011 - Nothing unusual

- Date of hire at ASA was: 4/20/87.
- Total flight time: about 25,000 hours.
- Total pilot-in-command time: about 24,000 hours.
- CL-600 flight time: about 9,000 hours.
- CL-600 pilot-in-command time: about 8,500 hours.
- Became a captain at ASA in June 1988.
- Had no previous accidents, incidents, or violations.
- No checkride failures.
- Had a 1st class medical and was required to wear corrective lenses (said he was wearing at time of accident)
- He was not taking any medications.
- No sleep problems (no sleep apnea).
- He had good health.
- He was based in ATL.
- He had flown with the accident F/O 6 or 7 times before the accident. F/O was an excellent pilot, had excellent CRM and was excellent with checklist.

Description of Event:

- It was good weather. Visibility was good at the time of the accident.
- Two engine taxi was uneventful and they complied with all the checklist procedures.
- They were cleared to taxi via Bravo taxiway onto Mike taxiway and was the #3 airplane holding Northbound on Mike taxiway waiting for departure on runway 9.
- They were lined up straight on the Mike taxiway centerline with customary spacing (approximately 25 feet).
- He did not hear communications between Delta and ATC.
- Delta 266 was moving "mighty fast" and looked like he might get an airspeed indication. We normally get an airspeed indication at around 40 knots.
- His concern was would the B-767 clear our airplane.
- He expressed concern and thought that Delta would slow down and stop if he would not clear our airplane. He did not think that a collision was imminent so he did not say anything on the radio.
- He thought that if the B-767 was on the taxiway centerline he should clear us. The F/O could not see anything from his side and did not say anything.
- When contact occurred it felt like a light to medium bump. He said he had push backs that were rougher. He was amazed at the amount of damage afterwards.
- He made a PA for the passengers to remain seated and checked with the F/As to see if they were OK and asked if there were any injuries. He said that he would call the F/As back. Later the emergency trucks were there and he found out that there was a passenger neck injury.

- Delta stopped their aircraft and asked ATC for a damage assessment and then we asked ATC if we could get a damage assessment too.
- He looked at the hydraulic synoptics and saw low quantities in the number 1 and 3 systems and then he secured [turned off] the left engine and turned off hydraulic pumps.
- The number 2 hydraulic system was good and he left the number 2 engine running. He did not remember any warning lights in the cockpit.
- Captain Jewell said there was not a checklist per se for low hydraulic quantity but referenced a low pressure checklist because there was not a low quantity checklist.
- Captain Jewell stated he thought that airplane movement was possible until he knew there was a hydraulic issue.
- Emergency trucks were there in 10 minutes. He did not know if the assessment vehicles showed up first or the fire response vehicles.
- Captain Jewell did not see any reason to go outside and do a damage assessment.
- After the emergency equipment arrived, the F/O asked if he could go out and look at the damage. F/O was not able to get off the aircraft until the busses were there.
- Captain Jewell did not go out and look at the airplane until all the passengers were off and the aircraft secured. There was no fire indication.
- Emergency responders informed them that there was substantial damage to their airplane.
- Captain Jewell knew that they would not be able to move the airplane and the passengers needed to be bussed back to the terminal.
- Captain Jewell thought that the best place for the passengers was on the aircraft. He saw no need to evacuate, saw no fire and was not told that there was a fire. There was no fuel in the back of the airplane.
- Aircraft was shut down when the passengers were getting off.
- There were no cockpit jumpseaters.
- The crew stayed with the airplane.
- Captain Jewell notified dispatch of the event and then contacted Chief Pilot Fuad Malik. Chief Pilot Malik said to stay with the airplane and it was not to be moved.
- He and the F/O did not hear interaction between Delta and ATC because there was an emergency happening on another runway.
- He did not see or hear an aircraft landing on 4L.
- Captain Jewell said that he had flown to BOS about 15 times and they seemed to handle traffic OK.
- After he saw the damage, he would not change what he did, he would not change his decision not to evacuate.
- He thought the emergency response was good but he wished they had been earlier.
- He was very surprised how little the aircraft moved during impact, especially after seeing the damage.
- He and the F/O were drug tested at 2330.

- He did not like standing out on ramp safeguarding the airplane (Chief Pilot Malik wanted them to stay with the airplane) and wanted to go to a hotel room. It was after dark when they left the airplane.

3.0 Interview: Delta Captain Mark Robert Kassoff, Line Check Airman
Interview date: August 1, 2011
Time: 1530 EDT
Location: Delta Airlines Headquarters, Atlanta, GA

Present were: David Tew, NTSB; Eric West, FAA; Bill Meacham, ALPA – Atlantic Southeast Airlines (ASA), Chris Avery, ASA; John Parsons, ALPA- Delta Airlines (DAL), Curt Adamek, DAL

During the interview Captain Kassoff stated the following information:

- Date of hire was 1/23/87.
- He was a flight instructor and a Aircrew Program Director (APD) from 2000 to 2005.
- He was a Line Check Airman (LCA) from 2006 to present.
- He was a standards captain for 3 years.
- Performed Operating Experience, FAA events, line checks, special Operating Experience, training of LCA, evaluations on new captains.
- He had about 13,000 flight hours at Delta.
- He had about 2,500 flight hours in the military.
- He had been a captain for 12 years on the B-757/B-767and had about 6,000 flight hours on the airplanes.
- More pilots flew the B-757 since they were more of them. Usually junior pilots fly the B-757.
- Senior pilots preferred flying international flights.
- He was a prior Northwest Airlines (NWA) captain. NWA pilots had a lot more to bite off and learn. NWA pilot might feel he was fed information by a fire hose.
- B-767 had 156 foot wing span with no winglets; on an airplane with winglets, the wingspan was 5 feet longer on each wing which gave it a 166 foot wingspan.
- He had no previous accidents, incidents or violations.
- His perspective on wingtip training:
    - Did not have wing distance training.
    - Winglet added about 5 ft to each wing.
    - Could not see wingtip on any B-757/B-767 without opening the window.
    - Wingtip simulator training or wingtip training in general is virtually non existent.
    - Boeing material did not have anything to reference (wingtip clearance) in them.
    - Captain Kassoff provided a list below of things he thought would help for the future:
        - Boeing suggests a seat position for the crew in Volume 2, page 1.40.21. Once in this position, the captain can use the bottom corners of the windows as gouge for wingtip. He tested this himself with the help of his

F/O. For the left wingtip, you use the bottom aft corner of the #3 window and for the right wingtip, use the bottom aft corner of the #2 window. This was not an exact science however it was a good place to start with a significant comfort factor added.

- While sitting in line for takeoff or while taxiing behind another B-757/ B-767, point out where the wingtips are with regard to the taxiways. A B-757 wingtip extends approximately to the taxi lighting while the B-767 wingtip extends about 5 feet beyond lighting on a normal width taxiway.
- While sitting in a congested ramp area and asked if you can go around an aircraft in front of you, the answer should be No if you are attempting to turn away from the aircraft or obstacle that is closer than (Flight Crew Training Manual (FCTM) pages 2.9 through 2.14):
    - B-757-200 no winglets – 15 feet of wingtip or 26 feet from nose.
    - B-757-200 winglets – 22 feet of wingtip or 33 feet from nose.
    - B-757-300 no winglets – 16 feet of wingtip or 20 feet from nose.
    - B-767-300 no winglets – 15 feet of wingtip or 40 feet from nose.
    - B-767-300 winglets – 26 feet of wingtip or 51 feet from nose.
    - For all the above except for the B-757-300, the wings scribe the largest arc. B757-300, it is the tail.
- I don't know if all airports we operate from maintain the same size concrete blocks. I doubt it but if so perhaps we can use the expansion lines as guidance
- Open window and look at wing. If still in doubt, see next note.
- Company policy as well as Boeing's (FCTM) states "When ground/obstruction clearance is in doubt, stop the aircraft and obtain a wing walker and Do not allow ATC or anyone else to rush you [FCTM 2.4]

- If doing an OE and pilot asks if the clearance is ok, the answer is for pilot to use good judgment, the younger he is the more conservative he should be.
- The FCTM page 2.4 said when the ground clearance or obstruction clearance is in doubt, stop and ask for a wing walker.
- With B-767 and B-757 cockpit windows, you can lean out 1 foot and see the wingtips.
- There was an electronic bulletin from Jim Graham (VP operations).
- First you must position the seat in the right place.
- Look down the corner of the windscreen to line up the wingtip.
- Taxiing behind a B-767 and seeing where wing tips cross edge taxiway gives good feeling.
- Can have L
- line check airman (LCA) on ramp, on cell phone, and giving a visual reference.

- Every geometry was difficult when taxi training. Not allowed to turn 180 deg in ramp area.
- Good assumption 99% of time to simply be on taxiway centerline.
- He pointed out there were only 2 statements in FCTM concerning wingtip clearance. (1)obtain a wing walker and (2) do not allow ATC to rush you -page 2.4)
- You could easily see the wingtip if you stuck your head about a foot out of the window.
- He thought F/Os were encouraged to speak up during OE. Flight Operations Manual (FOM) said if either pilot felt a go around was necessary, a go around was mandatory.
- Delta mandates that a pilot saw a B- 767 at some point during training OE or TOE
- NWA pilots got landings on the B-767.
    - Feb-May 2010, a group of pilots received touch and go landings in B-767 with a proficiency check pilot (PCP). They went up to Minneapolis, MN for the landings. The landings were all performed in the B-767 ER. They used 6-8 captains one day, and used F/Os the next day. For the training, 1 pilot taxied out, and one taxied in. As a result 4-6 other pilots did not get taxi training.
    - The senior NWA captain first got to taxi out.
- There was mention about paying attention to ground speed due to height.
- Taxi speed limits were 10, 20, 30 knots. 10 knots in tight turn more than 30 degrees, 20 knots was suggested normal speed limit, 30 knot limit during a taxi for a long distance on a straight taxiway [see FCTM 2.7].
- FOQA [Flight Operational Quality Assurance[2]] tells if taxi speed reaches 35 knots or more.
- Most taxi training has to do with 180 degree turns, or turns onto taxiways.
- There was no training differential between winglet and non winglet airplanes.
- All LCA meeting was held twice a year.
- Lead check airman met more frequently to discuss items of interest and pass these onto their check airman
    - Wingtip clearance training was not discussed before because it was not a factor.
- The required walk around training would be a good place to insert some wingtip clearance training.
- 3 ways inside cockpit to tell if you have an airplane with winglets.
    - Placard.
    - Flight Management Computer (FMC) ident page says 767 300W.
    - Log book in the very front in clear pages.
    - 100% of B-767s will eventually have winglets.
        - 30-40 % had winglets at time of accident.
- No plans to have entire pilot group receive cockpit training unless this [wingtip events] continued or something big happened.

[2] FOQA – data was gathered under an approved program to monitor and assurance compliance with procedures and limits.

- The Jeppesen 10-7 Las Vegas, NV (LAS) page was a perfect example of cautions about ground obstacles.
- Did not remember any discussions about taxiing during LCA meetings.
    - Delta events happened after last LCA meeting.
- NWA pilot was not required to receive trans oceanic experience (TOE) during transition from B-757 to B-767
- Taxi was not on radar for change prior to recent events.
- The 2 OEs were where we should formally introduce wingtip clearance.
- We were constantly revamping what goes into OEs.
- 20 % of B-767s went to Europe, rest were in the domestic category.
- A pilot might see a B-767 3-4 times a year after category was merged
- Any training a LCA mentions about taxi is technique only. There is no formal training.

4.0 Interview: Delta accident F/O Michael Jay Richman
Interview date: August 2, 2011
Time: 0900 EDT
Location: Delta Airlines Headquarters, Atlanta, GA

Present were: David Tew, NTSB; Eric West, FAA; Bill Meacham, ALPA – Atlantic Southeast Airlines (ASA), Chris Avery, ASA; John Parsons, ALPA- Delta Airlines (DAL), Curt Adamek, DAL

F/O Richman was represented by Gordon Rose, ALPA.

During the interview F/O Richman stated the following information:

- <u>He was asked to provide a 72 Hour History:</u>
    - He was on a five day trip with 2 layovers in BOS. They were scheduled to fly to BOS then to AMS [Amsterdam] and they were on the second day of the trip.
    - Slept well the night before the accident - approximately 8 to 9 hours.
    - On the day of the accident:
        - He awoke at about 0900, got lunch in Boston.
        - He checked in around 1700 for an 1800 or 1900 departure.
        - They were about 10-20 minutes late departing because the airplane was towed to the gate. There were no mechanical problems on the airplane.
    - On the day before the accident:
        - He had slept well and he had a long domestic day. He flew MSP-ATL-LGA and then deadheaded to BOS.
        - They started the day with a 0525 sign in and a 0625 departure from MSP and they arrived in BOS about 1600.

- Two days before the accident:
  - He had normal domestic duties during the day. Later he commuted from DEN after leaving home at 1600. He had an 1820 departure from DEN to MSP and he stayed at the La Quinta hotel where he slept well.
- Date of hire at Delta was: 5/22/00
- Total flight time: about 8,500 hours
- Pilot-in-command time was: about 1,700 hours
- B-767 flight time was: about 600 hours
- Flight time last year was: about 750 hours
- Flight time last 90 days was: 200 hours
- Last checkride on: 8/2010
- He worked for ASA from 1996 to 2000 and when furloughed from Delta.
- He knew Captain Jewell (ASA Captain) and said that he was a good pilot.
- At ASA, He flew captain on the Brasilia for about a year.
- Prior to ASA, 1994-1996, he was at Flight Safety at Vero Beach where he was a flight instructor in Piper Cherokees and Seminoles.
- Prior to that, he was at Metropolitan State College in Denver where he started flying and got his private pilot's certificate.
- He had not been a captain at Delta.
- He had no previous accidents.
- In March 2011, he had an altitude deviation and received a Letter of Correction (this was handled under ASAP). When he had the altitude deviation, the captain reset the altitude to missed approach altitude before he had reached assigned altitude and had altitude hold and the captain did not verify. He had no training as a result of the deviation. He did get a phone call that was a low level reminder that he had a low altitude deviation. Altitude deviation was an ASAP correction.
- At Delta he had no failures during training or checkrides.
- He had a current 1st class medical with limitations must wear corrective lenses (he was wearing them at the time of the accident).
- He had no medical issues.
- He was not taking any medications.
- No sleep disorders (no apnea).
- He was based in MSP.
- He was an original Delta pilot [not from Northwest Airlines].
- He had never flown with the accident captain before this rotation. The captain was fine to fly with and had mostly good CRM and was a friendly guy and F/O Richman did not feel closed down. This was the third leg they had flown together, planning was mostly good and they reviewed paperwork thoroughly. There were no issues during previous

flights and he felt comfortable speaking up and did not feel restricted. Delta training encourages the First Officer to speak up.

- There were no maintenance issues with the aircraft and no issues with pre-boarding, boarding and the support crew was good.
- Push back to spot 7 was normal and then they started both engines and contacted ATC ground. Ground clearance was taxi via Kilo taxiway and hold short of Alpha taxiway. There was a CRJ holding short of Alpha taxiway and a couple of vehicles holding short of Kilo taxiway on a service road. The CRJ was given a clearance to hold short of runway 4L approach on Bravo taxiway. The F/O pointed out to the captain that this would probably be their expected taxi route and noted hot spot one that they did not talk about in the pre-taxi briefing. Then they were instructed to hold short of runway 4L approach on Bravo taxiway and they held there for 2-4 minutes. Then they received the following clearance on 128.8 and F/O Richman said that the controller told them to "taxi to runway 4R, hustle around the corner for landing traffic."
- F/O Richman did not recall whether the landing traffic was on approach to runway 4L or runway 4R and thought that landing traffic was on runway 4L. They saw a heavy aircraft with the gear down approaching to land from the south on runway 4L. They thought that was the landing traffic.
- Taxiing was pretty quick maybe 25 knots or faster.
- He did not recall if there was a maximum taxi speed for the B-767 aircraft. When they first turned the corner, he was comfortable with that taxi speed especially with the traffic coming in.
- After we turned the corner things became busy and he became aware that the heavy airplane was landing on 4R.
- He did not recall hearing of an emergency inbound until after the accident.
- Several airplanes were waiting for takeoff and he thought that they would be number 5 or 6 for takeoff.
- They did the After Start checklist and the Taxi checklist but did not start the Before Takeoff checklist. He felt they had time.
- After crossing runway 4L, it "crossed his mind" that the landing traffic might be on runway 9. He still did not know where the landing traffic was going to. He did not see traffic for runway 4L. ATC may have shifted the traffic to runway 4R. He said it "looked like we needed to expedite to get around there."
- ATC said, "nice job contact tower on 132.22 be ready, you are number 1 for 4R."
- He started dialing the frequency and looked up to see that they had closed the distance with the accident RJ [regional jet] faster than he thought. He said, "hey, watch out for that guy," and pointed at the RJ on Mike taxiway. The captain looked out the window and the F/O thought he saw the RJ and in his mind it looked like it was going to be close. He felt that he only had time to say, "watch out for that guy."

- The captain did not say anything; he applied brakes and moved to the right. It was light braking. They were on the centerline of the taxiway and then moved about 4 or 5 feet to the right of the centerline. He was definitely uncomfortable but was not sure if they would hit. He did not have a lot of time on the airplane and thought about hitting the brakes but was concerned about the effect that would have in the back and relied on the captain's judgment and experience. Without being certain that we would hit the airplane, his braking would have possibly caused significant consequences. They were still moving at a pretty good clip and he was worried that he would hurt the F/As if he applied brakes. He even thought about turning left if he braked so the wing would rotate away. Without being certain, he did not apply brakes. He was comfortable using the brakes. He did not recall if the captain briefed that he could use the brakes. With Delta culture, he felt empowered to use the brakes.
- The captain did not open the window and he did not recall seeing anyone open a B-767 window to look out.
- They hit the RJ and it was less dramatic than he would have thought but it was distinctive. He was aware that they hit the airplane but said they did not move left or right much and they could not see the RJ at that time.
- We came to a stop and we checked in with the tower and the controller said to line up and wait. I told the tower we had a collision with the RJ and we had to hold our position.
- The captain and I talked about the situation and I said that we needed to talk to the flight attendant (F/A). The captain talked to the F/A but he did not know what was said. He thought the captain asked if everything was okay and if there were any injuries.
- The captain made a PA to the passengers and he sounded calm and professional. He said we had a collision and that the aircraft was okay and we would be heading back to the gate.
- The tower controller asked if we wanted to taxi and I told the captain and the controller that we should not taxi the aircraft because of debris and possible RJ evacuation.
- F/O Richman stated that the airplane could not deplane without stairs unless they used ropes and slides.
- He heard the RJ crew mention a possible evacuation and that they had a hydraulic leak. He thought he heard the RJ crew discuss the possibility of a fuel spill. He said we had no warnings or cautions and he did not know if the captain heard the RJ say they had a possible hydraulic leak and that people might be on the ground.
- We wanted an evaluation from the ground crew and I suggested shutting down the left engine and started the APU.
- I could not hear the emergency crews when they arrived and had some difficulty establishing communications. We switched frequencies and were not sure we had contact with the ground crew. It was a couple of minutes before positive contact was established.

- We could not view any ground personnel out of the window and we discussed the condition of the aircraft and if shutting down the left engine was prudent if a fuel leak was well out on the wing. We did not look out of the cabin windows and I do not know if the captain asked the F/As to look out the cabin windows. There was guidance in the QRH about evacuation. We had no warnings or cautions. Evacuation had not crossed our minds and in hindsight I could have looked over the QRH evacuation checklist.
- He said they received the assessment from the ground crew that the RJ had substantial damage but that our aircraft was safe to taxi. He restated that communication with the ground crew was "spotty at best." They had to ask them a couple of times and then ATC would ask ground crews if they were on frequency because Delta and ASA were trying to talk to them. They seemed distracted or had a bad radio.
- ATC gave us a clearance of right turn on runway 4R, right turn on runway 32, Juliet taxiway, Bravo taxiway, Kilo taxiway to gate A-14.
- They completed the After Landing checklist.
- When we turned to taxi back, I saw the RJ had a lot of damage. No one followed us to the gate.
- I did not take any pictures of the accident site and I don't believe the captain did either. After the passengers deplaned at the gate, I took a picture from the jetway but it turned out dark. There were also ground personnel that were taking pictures.
- He did not recall specific wingtip training. He recalled a general discussion on wingtip clearance. He recalled being told the second seam of concrete blocks was a good gouge to indicate approximately where the wingtip was. It was something he recalled talking about in ground school and there was also something in the LOD [learning objective document]. He had no taxi experience in the aircraft. He used the two seams as a bit of a guideline for the wingtips.
- He suggested maybe a warning beep for the wing tip would help.
- The Vice President put out a memo after the accident about not getting into a rush. He said that he liked the VP's memo and he "foot stomped" on safety. For example trying to be on time and saving fuel, being a rush can cause some problems.
- He felt the "hustle around the corner" clearance was a factor along with the next ATC transmission which was long winded and quick. Due to reading back the clearance and the fast taxi, we closed the gap to the RJ rapidly. Other duties interfered such as preparing the cabin and responding to ATC. When he looked up, time was short for him to say something and changing tower frequencies had also added to his duties. His time to respond may have been cut and he did not know if the captain was affected. He thought that they were number 6 or 7 for takeoff, but then realized that they were number 1.
- They did not know how far out on final approach the heavy airplane was. The weather was good and it was dusk so the distance of the traffic on final was harder to judge. He

- If an object was on the right of the airplane, he gave a clearance of two spaces of concrete blocks. He would ask for assistance during taxi if needed and several times he had stopped the operation for wing tip clearance issues. He remembered a time when a captain was taking a wrong turn and he applied the brakes to prevent it.
- He said he thought if he had more time, he would have stopped the aircraft.
- He did not recall any discussion about B-767 winglets but did recall a discussion about B-757 winglets. A lot of the winglet aircraft were placarded and there may have been a 50% mark on the spoiler handle.
- The captain did the walk around in BOS. I did know we had winglets. I think the wingspan was 5-10 feet more (with winglets).
- The flight from MSP to BOS was a B-757.
- Captain did a briefing and discussed the experience level. He thought the captain had 4-5 years on the airplane.
- He had been in MSP since January.
- The captain came from Northwest Airlines.
- He did not recall how much flight time the captain had on the B-767.
- He flew the first leg and was supposed to fly the accident leg.
- The NWA pilots will turn on the TCAS[3] before taxi less than half the time.
- He did not recall if the TCAS was on or not.
- There were cultural differences between NWA and Delta pilots. He had raised safety concerns about flying with NWA pilots. He was hesitant to stereotype but Northwest pilots seemed to rush procedures seemed lax and safety culture maybe could be improved. Safety number one culture needed to be emphasized more.
- Delta pilots had fewer changes with the merger.
- Merger did not affect this accident except maybe we let ATC get us rushed.
- He never saw the emergency vehicles until they were turned around and taxiing back.
- When stopped after the collision, he could not see the RJ.
- He mostly flew the B-757. He was trying to get more international flying. He felt okay operating the B-767.
- He was told it was harder to judge taxi speed on the B-767. He felt like he could tell how fast he was going on the B-767. He usually did not look at the ground speed readout. We usually did not taxi fast. The captain did not usually taxi out fast previously.
- He did not recall seeing an airplane landing on runway 4R. Planes were lined up on both sides of runway 9 on Mike taxiway. It might be a good idea to have a hot spot at Mike taxiway/Bravo taxiway intersection. There was a lot of traffic around hot spot 1.

[3] Traffic Alert and Collision Avoidance System – a collision avoidance system that provided traffic information to the flight crew.

5.0 Interview: Delta accident Captain David Bennett Farmer
Interview date: August 2, 2011
Time: 1130 EDT
Location: Delta Airlines Headquarters, Atlanta, GA

Present were: David Tew, NTSB; Eric West, FAA; Bill Meacham, ALPA – Atlantic Southeast Airlines (ASA), Chris Avery, ASA; John Parsons, ALPA- Delta Airlines (DAL), Curt Adamek, DAL

Captain Farmer was represented by Gordon Rose, ALPA.

During the interview, Captain Farmer stated the following information:

- He was asked to give a 72 hour history
  - Day of accident [July 14,2011]
    - He woke up around 0930 EDT.
    - He slept well.
    - He read, did computer work, checked emails in his room after getting up.
    - He ate lunch about 1130 and took a nap from 1300-1500.
    - He went for 4-5 mile run by the Charles river.
    - They had a pick up around 1730.
  - Day before accident [July 13, 2011]
    - He had a 0525 report and got up around 0400.
    - They flew MSP-ATL-LGA, then deadheaded to BOS.
    - F/O flew the first leg.
    - He flew ATL-LGA leg.
    - F/O was pilot flying on AMS (accident leg) flight. Captain Farmer did the pre-flight walk around for the accident flight.
    - He was aware of winglets on accident airplane.
    - He knew the airplane was a little wider than a B-767 without winglets - about 12 feet wider.
    - He went to bed at 2400-0100.
  - Two days before [July 12, 2011]
    - He had a 0800 wake up.
    - He read and did normal household duties. He played golf for 4 hours –had a 1340 tee time.
    - He went to bed at 2200 and slept okay.

- Date of hire at NWA was 8/23/85.
- He had about 8,000-10,000 total flight hours.
- He had about 5,000 – 6,000 flight hours as pilot-in-command. He had about 4,000 flight hours as pilot-in-command on the B-757 and B-767.
- He became a B-757 captain in 1998. He had been a captain about 13 years.

- He was in the Air Force prior to NWA. He had about 2,000 flight hours while in the military. He was a KC135 commander for 3 years. He also flew T37/T38.
- He became a Private pilot at Auburn College in 1979-1980.
- He had been a F/O instructor on the B-757, but did not have much copilot time on B-757.
- He had flown about 120 hours in the previous 90 days.
- He had flown about 420 hours in the previous year.
- His last checkride was in the B-757 simulator in May, 2007.
- He had no failed checkrides or training failures.
- He had flown about10 legs on B-767 - less than 100 hrs. He had flown about 8 legs on B-767 with winglets.
- He had no previous accidents, incidents, or violations.
- He had no difficulties during training.
- He held a 1st class medical with no limitations.
- He had no medical issues.
- He was not taking any medications.
- He was not drug tested after the accident. A Delta duty pilot said that based on the level of incident, drug testing was not required. He was released to go to the hotel.
- He said he had good sleep habits.
- He had no sleep disorder.
- Winglets did not make a difference to him when operating.
- Airplane descended a little slower with winglets.
- He did not recall any specific training on taxiing a winglet airplane other than the winglet airplane was wider.
- He did not recall a check airman giving him any guidance on wingtip clearance.
- You could not normally see the wingtips outside. He knew you had to open the window to see the wing tip.
- He had opened the window in the past, but not to check for wingtip clearance.
- He did not recall any company material on taxiing other than taxi speed and overshooting a turn due to position of nose wheel.
- He recalled taxi speed guidance was 10, 20, 30. Normal speed was 20-30 knots on a straight taxiway, 10 knots was max speed on turns.
- He did not recall what his ground speed was at time of accident.
- He did not normally look at ground speed indication.
- There was no one on the cockpit jumpseat.
- He thought there was a minor mechanical issue on the accident airplane - a light out or something. It was not significant to flight.
- He performed a F/A briefing.
- This was his first trip with the accident F/O.
- The F/O's abilities were very good. He knew procedures, had good communication, and could fly the airplane. He had good CRM. He felt the F/O would speak up if needed.
- It was not an on time departure. They were about 15 minutes late due to the airplane being towed to gate. No hurry due to the late departure.

- The airplane used for the AMS flight arrived at terminal E, was deplaned and then towed to gate A14. They did not board immediately as the airplane had to be catered and cleaned. They pushed from the gate about 15 minutes late. They pushed back to spot 7
- He said they were not rushed.
- Prior to pushback, the weight and data record (WDR) indicated they needed a longer runway. The departure runway was runway 9. On initial contact, we told ATC we needed runway 4R for performance reasons.
- There was no confusion on how to taxi out to the runway.
- ATC told them to taxi out and hold short at runway 4L approach hold line.
- He was not sure when they accomplished the Taxi checklist, but thought it was before they got to the runway 4L holding point.
- ATC cleared them to Kilo taxiway and to hold short of Alpha taxiway. There were 3 or 4 airplanes on Kilo taxiway that were holding short ahead of them. The accident RJ may have been there. They stopped short of a roadway
- They were told to go ahead and pull up and hold short of Alpha taxiway.
- Then were told to taxi on Bravo taxiway – hold short of the runway 4L hold line. They held for less than 5 min. He thought they completed the Before Takeoff check checklist while holding short of runway 4L. He thought he called for the check list while they were not moving.
- They were given the 128.8 frequency to contact tower for runway 4L.
- They were given the clearance "Delta 266 heavy, hustle around the corner at Bravo, and hold short of 4R, aircraft on 4 mile final". ATC did not say what runway the airplane was on final for. Their assumption was for runway 4L.
- They looked out and could see an airplane on short final that was appearing to line up for runway 4L. They could not tell if the airplane was 2 miles or 4 miles out. Airplane on final approach looked low. He was concerned about his 50 foot tail and getting hit by the airplane on final approach.
- When he got clearance to hustle around the corner and saw the aircraft on final, he thought he had time and that it did not look too close. They expedited taxi around the corner to minimize time in clear zone.
- He noticed somewhere after the turn, his focus was looking out the right at the airplane on final approach to see how close they would be to a danger area.
- After turning the corner, he did notice the RJ that was stopped on Mike taxiway just north of Bravo taxiway. The RJ looked clear of Bravo taxiway.
- Bravo taxiway had a yellow edge line but it opened where Mike taxiway intersected.
- The RJ tail looked to be north of yellow line and somewhere around about where the Bravo taxiway asphalt ended if that buffer area was extended across Mike taxiway. If that was extended across Mike taxiway, the RJ would have been clear of Bravo taxiway.
- He said looking back, he thought the runway 4L hold line was a really wide taxi area based on the BOS Jeppesen 10-9 page. In real life, it narrowed down much more than he expected.
- He believed the 10-9 chart was not to scale as it showed a Bravo taxiway depiction that was wider than it actually was.
- ATC said" Delta 266 heavy, nice job of hustling around corner, hold short of 4R, you are next to go, contact tower on 132.22"

- F/O went head down to change frequencies.
- We were taxiing at more than 20 knots to expedite across the runway.
- F/O and I looked up and saw the RJ. I saw it was going to clear, but thought it would be close so I steered slightly to right of center line and slowed down. The F/O says this was going to be close (reference the RJ not airplane landing).
- Captain Farmer said he started slowing down and within a second or 2, they hit. He used light braking to slow down.
- He had steered slightly right to where the taxiway center line was under his left seat or slightly to left of his seat - maybe about 5 feet. He said he was maybe 2-3 feet right of the taxiway centerline when they hit and around 5 feet right of centerline when they stopped.
- F/O did not say stop or apply the brakes.
- He had never had a F/O apply the brakes when he was taxiing. Both at NWA and Delta, he had a F/O say we did not have a wing walker and we needed to stop. That occurred when the F/O was concerned about safety - not from an emergency action nature, just CRM.
- The impact felt like we ran over speed bump or had a flat tire. But I knew we hit him.
- We stopped the airplane and the F/O made initial call. He said we think we hit a RJ located on Mike taxiway at Bravo taxiway. He said we need emergency equipment. ATC gave us a frequency change.
- Both accident aircraft were now on the same frequency.
- RJ crew said absolutely they got hit.
- He talked to passengers, talked to F/A, said to remain seated, told them we hit another aircraft and emergency equipment was coming.
- Somewhere at that time, he asked a F/A to look out the left window at the wing and see if we had anything leaking. He told the F/A to tell me what you see.
- The F/A said the left winglet had a jagged edge to it.
- Captain Farmer asked if she could see anything dripping or leaking and she replied no. They did not get out of the cockpit to look. He was satisfied with her report.
- He asked how the passengers were and the F/A said everybody was fine and that one passenger was ready, willing, and able to open the over wing exit.
- The hit was not a severe jolt, so he was not concerned about injuries.
- Fire and Rescue was a little bit delayed and went to the RJ first.
- Fire and Rescue said to the RJ they had severe (significant) tail damage and they were leaking fluid. They suggested the crew shut the airplane down. There were no suggestions to the RJ about evacuating.
- He thought it was a long time before the emergency equipment arrived. He estimated 10 minutes before emergency response got to us to talk to us about our damage.
- He wanted a 2nd inspection of the airplane from outside [the first being the F/A].
- Fire and Rescue went to the north end of runway 4R to deal with another emergency.
- They had to go through ATC since they could not communicate directly with Fire and Rescue.
- Fire and Rescue had to come back to give us an assessment of damage. Emergency vehicle came back and confirmed what the F/A said, no leaking fluids.

- At that point, they shut down the left engine especially since the RJ was on the left and had a possible leak. They were also concerned the RJ may evacuate and there would be debris on ramp. The shutdown was coordinated with F/O.
- The left engine was shutdown for single engine taxi (Delta taxi procedures), and because accident was on that side.
- He did not open the window.
- He asked if he was clear of vehicles.
- They contacted tower and performed a single engine taxi back to gate.
- They contacted Delta on their ramp frequency and told them about the accident and initially asked for a tug. But once the amount of the damage was assessed, they decided to taxi back to the gate.
- They were back at the original gate at 2000. They were back at their gate 45 minutes after they had blocked out. The collision occurred at about 1933.
- He never considered an evacuation based on information he had. There were no warning lights or indications in the cockpit.
- After the Delta –NWA merger, he got 3 touch and go landings on the B-767 in Duluth, MN. He was senior so he got to taxi out. He had an original Delta pilot in the right seat. There were no discussions on taxi speed that he recalled. He did not recall if it was a winglet airplane. They did a walk around en masse when they did their touch and go landing training. After touch and go training on the B-767, his first flight as captain on the B-767 was 6-7 months later.
- He had a B-767 simulator period after the merger. He did not recall if it was before or after the touch and go training.
- He kept the Jeppesen BOS 10-9 page out to taxi and the Jeppesen BOS SID[4] page also.
- He had not flown since the accident.
- There had been no corrective action at that time.
- He had waited for wing walkers when needed.
- He had no personal guidance for wingtip clearance.
- His perception was if he received a taxi clearance to go from point A to B and if he was on the taxi center line, he would have clearance.
- He set the seat so he can see the windshield wipers. He did this when he set the parking brake on preflight.
- When the seat was set, he could see down the glareshield in the cockpit.
- There was no specific taxi guidance during OE.
- He had very little experience on the B-767 fleet.
- He last flew a B-767 at the end of June about 2 weeks prior to accident and the airplane had winglets.
- He had little experience on how much the wingtips hung over the taxiways.
- He was asked how to tell if you have winglets on your airplane:
    - Dispatch release /W code for winglet
    - FMC [flight management computer] had the fuel percent for winglet aircraft
- He was asked several questions about the Delta –NWA merger:
    - Merger had gone well.

[4] SID – standard instrument departure

    - He thought the NWA pilot view was that NWA had the bulk of changes.
    - The merger occurred in phases.
    - NWA procedures for push back were different.
    - Initially used wrong check list names at times due to term changes.
    - Sometimes he was learning new script.
    - He had very little experience around a B-767 fleet, from all aspects.
    - There were very few B-767 operations out of MSP.
    - Could tell how wide an A-330 or B-747 was, but B767 was not familiar.
    - Had not had much experience taxiing behind another B-767.
    - He had not pass ridden on the B-767 to look out of window at wing tip.
    - There were no human factors issues flying with Delta south F/O[original Delta pilot]
    - He said it was a very good merger.
- He had no difficulty in training.
- There was nothing briefed on F/O braking.
- Did not remember talking about speed reference differences during differences training
- Did the international refresher 606.
- NWA B-757s had winglets, but no specific taxi training differences.
- The higher you were above the ground, the slower the speed perception was.
- He did not see a need to have a different type rating between the B-767 and B-757.
- The RJ did not know they were passing behind them since they were on a different frequency.
- It might have been a different story if we had a 3rd pilot. A 3rd pilot may have helped.
- It would be nice if there were additional markings to indicate the distance from the taxiway centerline so that you don't block the box [taxiway intersection].
- He recommended the width of the BOS Bravo taxiway be made wider.
- He recommended the airplane on short final be identified to say which runway it was going to.
- When cleared to runway 4R, you should be cleared all the way.
- Don't block the box.
- It would be good to have a live video from flight deck or overhead giving guidance of where the wing tip is.
- A taxi awareness video would be good.
- It would be good to have warning sensors at end of winglets.
- He knew it was a pilot's responsibility to stay away from other objects.

6.0 Interview: Delta Captain David Wing, Simulator instructor
Interview date: August 2, 2011
Time: 0900 EDT
Location: Delta Airlines Headquarters, Atlanta, GA

Present were: David Tew, NTSB; Eric West, FAA; Bill Meacham, ALPA – Atlantic Southeast Airlines (ASA), Chris Avery, ASA; John Parsons, ALPA- Delta Airlines (DAL), Curt Adamek, DAL

Captain Wing was represented by Gordon Rose, ALPA.

During the interview, Captain Wing stated the following information:

- Date of hire at Delta was 1/5/89
- He was an Aircrew Program Director on B-767.
- Total flight time was about 17,000 hours.
- He had about 6,000 hours in the B-767, of which about 4,500 hours were as PIC.
- He had been a simulator instructor for 9 years.
- He had about 2,100 flight hours PIC with the United States Air Force.
- The Flight Crew Training Manual (FCTM) had guidance regarding window position and steering (oversteering), and also seat setting information.
- Volume 2 (pilot reference manual) had references for leading turns.
- Seat position was discussed in the simulator and the manual. By first the full flight simulator, pilots have found their (seat alignment) guidance and make minor adjustments once in the simulator. Thought there was a difference between the manual seat and the electric seat especially with him being tall. He liked the electric seat because it was infinitely adjustable.
- Simulator was not designed to be a taxi simulator. Taxiing in the simulator was not of much use.
- He stressed to everyone that the F/O tell the captain he has winglets as they add 10 more feet of wing. He reminded captains to remember you are 10 feet wider.
- A pilot eventually figured out how to be comfortable taxiing.
- Usually pilots flying the B-767 were the more experienced pilots.
- An F/O would get certificate training in the left seat including a takeoff, abort, and taxi. So they were exposed to a taxi event in the simulator.
- He saw no issues in merging the NWA and Delta pilot groups.
- They point out to pilots to watch ground speed indicator, it was easy to get the speed up in the B-767.
- He did not do OE training.
- Pilots were trained in 3 ways - quarterly qualification, continuing qualification, and via a CD.
- In ATL, Victor taxiway cannot be used by B-767.
- He could not recall any formal taxi training.
- LCA [line checkairman] Manual had guidance on taxi since they were responsible for final certification process during OE.
- Last 4 simulator rides had full profile taxi requirements.
- A pilot should make sure he was on the yellow line.
- Training
    - CD training with interviews with pilots interviews discussing actual events (taxi).
    - Not sure aircraft training would be cost effective.

7.0 Interview: Thomas R. Curran, FAA Air Crew Program Manager (ACPM) B-767 Delta Airlines
Date: August 10, 2011
Location: Phone interview
Time: 1000

Present were: David Tew - NTSB; Eric West – FAA; Bill Meachem –ALPA ASA; Curt Adamek – Delta; John Parsons – ALPA Delta; Chris Avery – ASA.

Mr. Curran was represented by Brook Lewis

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

- His date of hire with the FAA was July, 2001.
- He had been the Air Crew Program Manager [ACPM] on the B-767-300 & -400 for about 4 years at the Delta Airlines Certificate Management Unit (CMU).
- Previously he was the ACPM on the regional jet at Atlantic Southeast Airlines.
- He held a B-767 type rating and was trained on the B-767 at Delta Airlines.
- He only had simulator time on the B-767, no airplane flight time.
- The Flight Crew Training Manual (FCTM) had "quite a bit" of detailed information on B-767 taxiing speed and wing tip clearance. It showed all the dimensions of the B-767. There was some guidance concerning wingtip clearance during taxi – mostly giving you the wingspan.
- The FAA was concerned with any accident, but the wingtip accident in BOS was a rare event.
- Delta line check pilots discuss the proper following distance behind another airplane.
- Taxi guidance in training is "simply" "when in doubt, stop".
- Pilots should not feel rushed by ATC.
- He was not aware of any FAA concerns about taxi events.
- Delta taught threat and error management. Crews discuss not only what threats were present but how to mitigate those threats. This started before the engines were even started and continued as the situation changed. An example was that a "hot spot" on an airport would be discussed by the crew and a solution would be that pilots call out all signage as the taxi progresses. Threat and error management was a constant thing.
- Delta manuals did not have any techniques on taxi that should be avoided.
- Pilots should do a review of the Delta green airport taxi charts to anticipate problems as they taxi around an airport. If necessary, pilots should consider asking for progressive taxi instructions. Other than having a pilot sit in the cabin and look at the wingtips, there was not much a pilot could do.
- Mr. Curran had ridden the cockpit jumpseat quite a bit to observe new captains on the B-767. He observed operating experience (OE) of new captains and lead check airmen. He did not recall any wingtip clearance instruction or techniques on taxi being discussed during taxi except during turning the airplane. He said he was in the cockpit every week. He observed domestic and international flying.
- When asked how often he observed training in the simulator, he responded that he was in the simulator "quite regularly" and was due to be in the simulator the day after tomorrow.

- Delta has 300 check airmen.
- Mr. Curran has oversight help from four other people.
- He attended check airmen meetings and standardization meetings regularly. He said there had been a check airmen meeting last month.
- Mr. Curran said that yesterday [8-9-11], he met with Delta management for a discussion of wingtip events. There was a discussion on the evolution on how guidance would be dispersed and the availability of guidance materials. It was a work in progress.
- He said Delta fleet captains have put out guidance including Boeing suggestions on seat positions and wingtip extensions. They also discussed recent wingtip events.
- He had heard "nothing" from Boeing concerning the wingtip events.
- Mr. Curran said that about a year and a half earlier, Delta had line check pilots take a B-767 to Huntsville. Alabama so that the pilots from Northwest Airlines could do "bounces" [landings] in the airplane. Delta had also given the NWA Airlines pilots landing training in the simulator. This was done to prepare the "Delta North" [Northwest Airlines] pilots to fly the B-767. Pilots who had not flown the B-767 previously had a chance to fly with check airmen who emphasized the differences between the B-757 and the B-767. He did not know if any taxi training was included. He did not observe the landings at Huntsville.
- Mr. Curran was asked if he had observed training events where the OE instructor was trying to teach pilots about taxiing. He responded that Delta schedules the FAA for line checks and that he usually got to observe some OE on the leg before the line check observation. He said he could not recall any OE training on taxiing the B-767, but did recall some training on making turns during taxi.
- He said he had heard of other type airplane having "issues" with airport terminal taxiways, but he was not aware of any taxiway limits on the B-767 or the B-757.
- He was asked if he had heard of any guidance for B-767 airplanes turning into the ramp in Atlanta, Georgia and he responded "No". He said he had just seen "good judgment".
- He had not seen any crews deviate from the taxiway centerline to avoid another airplane. He said a ramp area may be a common place to deviate from a taxi line but it took good judgment.
- A taxiway centerline does not guarantee wingtip clearance but should normally give wingtip clearance if there is "plenty" of concrete.
- He said that during meetings with chief line check pilot and training personnel, the wingtip accident would be "brought up" and would be given special emphasis during taxi training.
- Crew and event are under the ASAP program