ATTACHMENT # 1:
Crew and Witness Interview Summaries

Interview with Delta crewmember

Captain Flight 554

Captain Joseph G. Broker October 21, 1996

Captain DOB: [redacted] His date of hire with Delta is 9-5-78. Captain's last recurrent training was on 9-IS-96 His flying background included the Air National Guard with F100 with approximately 10,000 total hours including civilian time in crop dusters and Citation. Captain checked out as a Captain on the MD-88 on 5-90 and currently has approximately 3750 hrs in the MD-88 Delta total time is approximately 5,000 to 6,000 hours Captain is currently holding a reserve line. His last trip was on the 15th of October during a one week move-up. Check-in time for the four day rotation for Delta flight 554 was 1330 hrs This was the first Icg on the first day of the rotation. The weather brief consisted of watching CNN, observing the radar in the pilot lounge and receiving the dispatch weather brief at the gate Captain briefed F/A about LGA weather in normal F/A briefing and asked F/A to do their service as early as possible so they could clean-up fur descent Captain requested ACARS weather update twice during crews at 37,000 feet Flight held at Stefe with only two thirds of a turn in the holding pattern with VMC weather conditions Aircraft departed Stefe with a southwest vector followed by a direct to SOMTO Seatbelt sign was turned on when aircraft left Stefe holding Reported a wall of weather approximately 9,000 to 12,000 feet At this time aircraft was vectored north of course followed by a heading of 090 degrees Captain mentioned to F/O that the heading was not good for getting back on course Weather radar showed rain with no shadows or convective activity, visually or on the radar Captain verified that shadows was a term lor attenuation Rain pretty much solid between Minks and Dupont all the way to LGA. Parallel the arrival hut not over Minks ATC vectored aircraft north over the end of airport at 4,000 feet in the rain with light to moderate turbulence. ATC gave a heading of 320 degrees but F/O thought it to be 330 degrees which was confirmed with ATC Aircraft was vectored to a southerly heading while descending to 3,000 feet and slowing to 180 knots for a dog leg to final Captain observed other aircraft in the area on TCAS Turbulence seemed to he less as aircraft descended Intercept for the localizer was almost on a parallel course heading and wind pushed the ail-craft in which Captain discussed with F/O Aircraft intercepted final approach 8 to 10 miles Received

glideslope at 3,000 feet just prior to localizer capture. The F/O was on raw data to monitor localizer intercept Gear was lowered prior to final approach fix followed by flaps to 40 degrees and a call for the Before Landing Checklist. On dog leg to final weather was IMC with light turbulence and light rain, with airspeed stable and no visibility. Flight was told to contact Tower Heard TWA flight cleared in position and hold, but no landing clearance on first contact at approximately 1,000 feet above minimums. The Vref additive is computed by taking half the steady wind state plus all the gust up to a max of 20 knots. In this case it was computed to be 6 knots but elected to add 2 additional knots for buffer Speed command bug was set at Vref plus 8 knots. At this time TWA was cleared to takeoff- and the next breath, crew heard that Delta was cleared to land with a braking action report of good by a 727 Wind was reported to be 080 or 060 at 12 as remembered by the Captain TWA aborted after F/O called 1,000 feet above minimums and cleared to land with checklist complete The Tower asked why TM'A had aborted TWA responded that they had an engine problem. At this time the Captain considered a missed approach At 200 feet above minimums, aircraft was still in heavy rain with IMC conditions and windshield wipers on

F/O reported intermittent ground contact after 200 feet above minimums and stated aircraft was a little high and a little hit slow Captain added power and lowered nose At 100 feet above minimums, F/O reported no contact Just then, within a few seconds, Captain said "approach lights in sight" Captain didn't recall what he saw on the flight instruments at this time Aircraft appeared to be slightly right of approach lights and angling toward the approach lights After that. the Captain reported that the picture got better and the runway came into view At that time TWA was reported clear of the runway and Captain felt lie was in position for a successful landing. Captain reported restrictions to visibility were ragged clouds or rain. not like braking out of a cloud deck. Wipers were on and did not use rain repellent Captain did not hear any mention of windshear from any pilots Winds was east north east at 12 knots. Captain reported a correction to get on center line, over did it. drifted right and corrected back left All of a sudden aim point shifted down into the lights Captain pulled up on the nose and thinks he pushed up power Captain does not remember hearing warning signals in the cockpit

Captain reported that aircraft was stabilized per Ops manual until this point. Aircraft was coupled to 500 feet. Captain reported cross checked the barometric altimeter relative to the altitude stated on the approach plate for the final approach fix. The Captain wanted to get the feel of the aircraft and disconnected the autopilot stating that "I've got the airplane". The Captain does not recall if autothrottles were disconnected. Captain stated that it's common to disconnect autothrottles prior to touchdown but not required and he did not see the autothrottle disconnect light. The Captain disabled the CAWS warning sound for the autopilot by using both the autopilot on/off switch and the disconnect switch on the yoke. The Captain then stated that aircraft hit something that might have been approach lights. Aircraft ended up right of center line hut velocity vector was down the runway Captain did not recall use of spoilers and did not use reverse Captain felt he had directional control and knew something was wrong behind us, possibly the wheels or some kind of damage Did not hear any scrapping sounds because of loud noise from the wipers and thinks F/O called out an airspeed or two At this time, Captain started losing rudder control as nose went to tlie left but did not use tiller Captain described motion like a ground loop but it seemed very slow by then The aircraft stopped followed by the deleted expletive Captain did quick assessment. no warning lights, seemed aircrafl was intact and made P A to passengers for everyone to stay in their seats with seatbelts fastened F/O opened door and non-rev pilot reported fumes Captain made a P.A. "Ladies and Gentlemen, evacuate airplane. please follow Flight Attendant instructions". F/O left the cockpit and Captain did tlie Evacuation Checklist by himself Captain thinks F/O had talked tu the Tower Captain reported that "Bitching Betty" was repeating "landing gear. landing gear" At that time Captain felt this noise added to the confusion and pulled a handful of circuit breakers attempting to silence "Bitching Betty". The Captain departed the cockpit hut later returned in an attempt to turn off some switches and the emergency lights to lessen fire hazard, but remembered he could not turn off emergency power with the loss of emergency DC bus Captain could smell fuel fumes in cockpit. At this time, Captain offered to carry an elderly lady off the aircraft but she refused F/O went hack and physically carried her off the airplane Captain did a walk through and reported that lie was the last one off the airplane

After going down the slide, Captain reported fumes outside the aircraft, asked where are my passengers with a response that they were all in vans, and noticed that runway did not have much water No injuries reported by Captain or F/O

Additional Comments

Captain reported previous experience in the **A-7** with a HUD (Heads Up Display) which he described to be producrive in any approach especially transitioning from IMC to visual. Captain reiterated his discussion of the offset localizer arid unusual glideslope below 200 feet Captain also discussed the possibility of going below the glideslope inside the middle marker on shorter runways in visual conditions, but not at LGA because of the piers Captain stated that flaps were set to 28 degrees on the Evacuation Checklist. Captain stated that the donut on the fast/slow indicator was the primary airspeed reference. Captain normally kicks autopilot off at approximately 1,000 feet if approach conditions allow this but usually **kicks** the autothrottles off at the middle marker and Captain responded that it might be helpful to have the non-flying pilot monitoring the instruments inside the aircraft while the flying pilot is looking outside the aircraft during the last part of the approach The Captain did not recall his airspeed when he transitioned from instruments to outside the cockpit for tlic final part of the approach. Captain recalled a drift correction of about 10 degrees during the final approach. Captain stated he was wearing contact lenses

Interview with Delta crewmember

First Officer Flight 554

First Officer Henry Grady Lane 111 October 21, 1996

The First Officer (F/O) received his training in the Air Force with two years experience in a C-141 and 4 yrs in a 1-37 as an Instructor First Class Physical was performed 2-15-96. Date of hire with Delta 5-30-88. Delta experience, Flight Engineer 727 and L1011, F/O DC-9/ATL and MD88/ATL. Total flying hours 6800. 4179 hrs. with Delta and 2137 on the MD88. Recurrent training 10-17-96 which consisted of 2 days ground school and 2 simulator periods completing Delta's single visit training. First Officer was a line holder on his first day Captain was on reserve. First Officer flew'with Captain before in January 96. First Officer reponed I hour prior to departure and reviewed the graphic weather on the computer downstairs in the Pilot's Lounge The total fuel load including alternate and holding was about 28000 Ibs. to the best of his recollection We made one hold at Stefe at 23000 feet on a minks one arrival. We were in the clear and the Captain was flying We were slowed to 240 kts and got a vector from the holding pattern F/O got information Charlie then Delta from ATIS Enroute F/O requested weather from ACARS a couple of times for LGA ACARS ceiling from 1000 to 1500 and winds 090/25 gusts to 38, but the ATIS weather showed the winds had gotten down to approximately 12 kts. Initial call for the Flight Attendant with the seat belt sign was done at approximately 18000 feet coming out of the holding pattern The Captain had briefed the Flight Attendant In Charge (FAIC) in ATL to clean up tlie cabin on descent early because of tlie bumpy weather in New York. ATC vectored aircraft to the east for descent. The decent and then tlie approach check was commenced and the Captain briefed the approach for ILS for 13. Radar Altimeter set ai 250 feet and the Barometric Altimeter set at 263 feet. The F/O saw other aircraft on TCAS going through rain He saw green and yellow returns. Weather can be displayed on NAV with course 'I-CAS targets can be displayed on weather radar and VSI display Given a northerly heading at 4000 feet for vectors over the final approach for turn to left downwind. Experienced moderate rain and light turbulence over tlie airport as ATC vectored aircraft downwind Descended to 3000 feet and slowed to 180 kts with 15 degree flaps Responded that full slats are extended beyond 13 degree flaps Given a westerly heading for dog leg to final, and F/O selected

ARC mode on HSI to back up the localizer intercept Using ARC for raw data to confirm localizer capture. Pretty nice ride in and out of rain. about 10 miles out got localizer capture started descent on glideslope at 3000 feet Started approach on localizer. Radar vector from approach control compensated for a strong wind from the east. The last turn was pretty close to parallel because of strong east winds. Aircraft was on glideslope before localizer. It was a non-event since glideslope/localizer all came together at the same time. Started tracking glideslope and localizer and started slowing and set approach speed Gear down before final approach **fix** F/O reported pretty smooth ride, stabilized. F/O reported 40 degree flaps selected and completed the Before Landing Checklist prior to thr FAF F/O called the Tower, Tower reported wind 060 at 12. The Captain thought he heard 22 The Tower clarified at 12 which is important tu determine the wind additive. F/O recalls Vref was 123 with an additive of 6 based on half the wind but the Captain elected to add two extra knots to he set on the orange bug The donut is based on the orange bug F/O recalls monitoring slow/fast indicator (donut) which was on speed. Crew expected to break out at 1000 feet based on ATIS hut at 1000 feet above minimums. experienced moderate rain in IMC and still a good ride

TWA cleared on runway, one runway operation, RVR now 3000 feet. Tower also reported 727 braking action good Do not recall Tower or other aircraft reporting windshear Had trouble hearing due to rain windshield wipers and transmission quality. F/O thinks he heard reports of speed fluctuations by 727, riot a clear transmission. F/O reported aircraft windshear system did not activate F/O has never heard windshear warning in actual aircraft but has experienced it in a simulator At 500 feet, F/O saw lights on the ground off tu the side arid stated that autopilot and autothrottles were engaged. F/O said aircraft on airspeed, glideslope arid localizer at 500 feet TWA was cleared for takeoff and Delta was given clearance to land shortly thereafter TWA called abort with several Tower transmission back and forth to TWA TWA reported an engine problem and the Tower asked them if they could clear tlic runway **At** 500 feet, the Captain clicked off the Autopilot with no subsequent aural warning based on Captains method of disconnect F/O docs not remember about Autothrottles being disconnected F/O called 200 feet above minimums at approximately 463 feet in IMC conditions with wipers on.

Aircraft was slightly high. one dot on glideslope with airspeed slow base on donut, approximately 8 knots F/O called both of these to the attention of the Captain. F/O thinks the Captain responded with power F/O called 100 feet above minimums and Captain said "not in sight" and then Captain reported the approach lights in sight. F/O did not call minimums since Captain called runway. When F/O saw approach lights, aircraft was slightly right of center line but did not see VASI at this point. F/O reported not being able to determine vertical guidance by looking at the approach lights in the rain. The F/O reported that the next thing he remembers seeing was a windscreen full of lights. F/O thinks he said "we are low" and in a split aircraft landed. F/O saw the lights in the overrun and thought aircraft would touch down in the overrun. F/O felt it was a firm landing in the overrun, on top of the pier F/O felt aircraft had no gear, he heard a sound like broken glass F/O does not recall spoilers being deployed and does not think the Captain used reverse As aircraft was sliding down the runway F/O was calling a couple of airspeeds for ttie Captain Directional control was O K during initial rollout but as aircraft slowed it began a slow turnaround, resulting in 180 degree turn. During this time, Tower made alot of calls but don't remember what was said It sounded as if someone was screaming but not sure if this was coming from tlie Tower or the back of the aircraft. F/O docs not remember any aircraft noises during tlic rollout After aircraft stopped the Captain made a P A for the passengers to remain seated and shortly thereafter decided to evacuate. F/O called tlie Tower to tell them aircraft would evacuate on the runway side. The F/O opened the cockpit door. During this time a non-revenue pilot came to the cockpit door to report that he smelled fuel fumes in the back. F/O told the F/A to open arid use the front passenger door because of tlie fumes The Captain did the Evacuation Checklist in the cockpit Policemen said outside "You have a fuel leak, get off". F/O assisted F/A in evacuation and stared that that he sensed no panic and had to tell some passengers to get off the aircraft The F/A and F/O noticed an elderly couple in the back that was slow to respond and the F/O went back to help After all passengers and F/A's left tlie aircraft, the F/O went out followed by the Captain

Additional comments:

The Captain did discuss 28 degree flaps but had a better picture with 40 degree flaps. The Captain requested medium auto brakes. Captain and F/O discussed the remarks on the approach plate concerning the offset localizer which was 132 degrees. F/O thinks he might have heard the glideslope warning prior to landing. FIO reported his responsibilities during the approach involved monitoring the instruments until runway in sight. F/O preferred to use the donut for airspeed indications. FIO did not take over the aircraft at any time during the approach.

Interview with Delta crewmembers

Flight Attendants Flight 554

Flight Attendant In Charge (FAIC) 1L First Class by door

Jennifer Teas October 20, 1996

FAIC was hired in 9-28-89. Received recurrent training approximately ten days ago. The rotation began in Austin at 0500 CDT consisting of AUS-DFW-AUS-ATL-LGA. F/A reported bumpy at top of descent and Captain contact FAIC on interphone to clean up early and FAIC made P.A. Initial approach was signaled by the seatbelt sign and the final notification is made with four chimes approximately 10-15 minutes later. FAIC returned to jumpseat position and noticed heavy rain upon starting the approach and was surprised that the airport was open. F/A reported no lightning but it got bumpy and then more bumpy. F/A opened her red book which was close by and handy, (F/A Manual) to review ditching procedures because of her concern with the bay at LGA. It was a very hard landing but did not feel like we had wrecked. It was a light bounce with no unusual noise. **F/A** felt that deck angle was high like a go-around and did not remember any subsequent touchdown. Facing aft, the **F/A** felt a heavy left gliding feeling but not a spinning motion, for approximately one minute. At that time the aircraft stopped and everything was very quiet. The cockpit door flew open and a P.A. was made from the cockpit for the passengers to remain seated, remain calm and await further information. Non-rev pilot came up and said **"I** smell fumes". F/A also reported smelling gas fumes and both reported this to the pilot in the cockpit. One pilot said we will evacuate and followed this with a **P.A.** to passengers. F/A stood up and took flashlight, said 6-10 times "release seatbelts, get up, get out". F/A opened door and pulled red handle 1L. F/O said that we would only use this door. She deployed (inflated) the slide and shouted "sit and slide". First four or five people sort of slid into each other. F/A yelled "stay down there and help the others off', they did not, they ran. Cabin dim on landing. F/A saw white lights. F/A could see trucks, terminal building, reported it was still light. Rain was coming down real hard. Evacuation very orderly. **F/O** was standing by F/A and told passengers "slow up, you're going to be o.k., sit and slide''. it went like clockwork. Firemen asked F/A how many people were left, she observed cockpit crew member in back with an elderly couple in 27 D and **E.** Firemen told F/A to *get* out and she **did.** F/A in rear of airplane cracked

aft door but other F/A at mid section told her to use only 1L and they also helped the elderly lady. Firemen seemed to arrive fairly fast, approximately **20** seconds.

Additional comments:

F/A cleaned up with initial approach "we were ready". Did quick walk through with four chimes and sat down. Rain got harder and louder, listened closely after gear extension. Heard pull up warning, not exactly sure which but had heard it before. Maybe "autopilot" instead, a familiar automatic recording. F/A Felt it was bumpy but not too bad during the approach. It was very hard rain. During evacuation, the overhead bins were not open and no oxygen masks dropped. Everybody went out 1L door, no other exits door open, only 40 plus passengers on board. F/A reported only a few people attempted to retrieve their carry on baggage but no one brought their luggage for evacuation. F/A thinks the couple in 10 D and E went to the hospital. F/A reported only first few passengers were rushed in the evacuation. On touchdown, passenger at 1C made kind of **a** smile and F/A thought "Wow, what a landing". The non-rev pilot was in uniform. F/A evacuated aircraft, aft cabin F/A followed. **F/A** felt good about evacuation, had received ***6*** to 10 comments, "good job or thank you" from passengers during evacuation. F/A questioned why was the airport open?

Meliza Sumortin October 20, 1996

Date of hire 1-27-92. Recurrent training in 2/96.

F/A recalls passenger count in mid 40's with elderly couple in 27 D and E, one infant and one child. Smooth flight with standard briefing. It was smooth until we touched. F/A was seated in 2L jumpseat, row 30, right in front of aft galley. F/A liked that seat because it allows her to see outside. . F/A expected a pretty much on time arrival until the pilot made an announcement of a brief delay for traffic. F/A's had cleaned up everything by the time FAIC made final P.A. and F/A's were already seated. F/A heard 3 or 4 chimes before landing gear extended. There was a passenger in the opposite window seat, 29D, who talked out loud saying, "fog, fog, water, lots of water". F/A saw the pier out the F/O side of the aircraft. Airplane rolled real low just before we touched something, it was all fog outside. The aircraft just pitched (similar to takeoff), engines revved. Then pop! (F/A's description of impact sound) and aircraft kept going. Aircraft was sideways toward F/O side and we were turning counter clockwise. It would have felt like a normal landing if more runway had gone by. F/A observed no loose articles or overhead bins opening during slide. Cabin had been properly secured. After aircraft stopped moving, F/A grabbed handset with left hand and red book (F/A Manual) with right hand. The Captain made a P.A. to stay seated. F/A yelled at lady who stood up to take items from overhead bin. Captain made P.A. to evacuate. Passenger distribution was mostly forward of wing. It seemed better and easier to go out the front door. One passenger pointed to the overwing exit on the F/O side and F/A said no. F/A said she was trained to evaluate "that was low side of aircraft, so that would be steeper". F/A smelled fuel and people were moving, so the front would be faster. "Mother (elderly passenger in row 27) was taking a long time". F/A grabbed her flashlight and some ice for Mother because she had hurt her head Half passenger were gone and Mother was still at her seat. Captain asked to carry Mother, but F/O just picked her up and put her down the slide. When F/A left, F/A, Captain, F/O and Mother remained F/A slid down slide, remarked her skirt was up to her armpits, so she closed her eyes and pulled it down The Fireman pushed her to a mini-van In the van was a non-rev woman, first class passenger and a non-rev pilot

Additional comments:

Described the weather as awful. Remarked that when she came down slide, she landed in a puddle and made a splash. Wind was gusty. F/A noticed streaks of water on the windows as she looked out of aircraft on approach. Just all clouds, then water, pier and loud bang. F/A heard no reverse after landing, just skidding and water, Shush!

Raina S. King October 20, 1996

Date of hire 8-24-91. Recurrent training was 9/96. F/A was seated in aft jumpseat near rear door. F/A knew the aircraft held near PHL but not for long. The FAIC informed the crew to clean up early. In ATL crew knew that weather was bad and thought that we might cancel. Flight was bumpy but no big deal. Sidewall lights in cabin were dim for landing. F/A sat down and put up barrier strap. F/A received four chimes before she felt gear go down. All F/A's were seated before it became real bumpy. Couldn't *see* anything outside or hear rain because of engines. Just prior to landing F/A saw lights along side of airplane. F/A heard the engines thrust and thought the aircraft was about to go around. F/A thought the aircraft would instantly go up, there was a roar, boom and the aircraft made landing. Did not feel it was an uncharacteristic jolt for LGA. F/A said it felt like a jolt and it did not scare the F/A. Bins did not open, oxygen masks did not drop out. F/A has had worse landings. There was some rocking motion on final approach, what F/A expected from high winds. F/A felt like being thrown to the right and heard a cracking sound on impact. It felt like gear was partially retracted and then came up. It was like a big car on a piece of ice, like a fishtail. F/A didn't think the aircraft traveled in a straight line. After the aircraft halted, F/A got on the handset. The barrier strap had unbuckled by itself There was no indications of loose bins or baggage. It was very calm. Instead of using the handset intercom, the Captain made an immediate P.A. (which was good) "stay seated, and stay calm". One passenger opened the overhead and a F/A yelled "sit down". A pilot, F/A believes the Captain made the P.A. "Ladies and Gentlemen, we need to evacuate". F/A got up and prepared aft door. Removed plastic cover, grabbed the flashlight and rotated the handle. F/A felt the majority of the passengers were seated in the forward part of the aircraft. One other F/A said, "no, were going out the front". As F/A moved forward, most passengers had already gone forward except for an elderly couple in row 27. Elderly woman complained her head hurt and seemed disoriented. Elderly woman did not seem to know aircraft was evacuating. F/A reasoned with her for a short time. F/A had not smelled fumes in the back of aircraft. F/A had not sensed any urgency until other F/A brought the smell of fumes to her attention. F/A did not know the smell of jet fuel, she described the fumes as smelling like gas. F/O was saying "Hurry,

hurry, hurry". F/O and the Captain came back to assist. The Captain asked elderly woman if he could carry her and she said no. "Elderly woman with Meliza, Captain and F/O, I was told to evacuate and use the slide". F/A remarked, "the next time I'll wear pants on egress of an aircraft". Was urged by Fireman to run but remained until F/A saw elderly lady at the door. Did not see passengers, but went and joined other F/A in van.

Additional comments:

F/A does not remember any emergency lights but it was still daylight. F/A did not feel any unusual thrust on engines until just prior to touchdown. F/A did not actually tailcone exit on aircraft. Felt like a stabilized approach, engines did not go up and down. F/A thought we were going to abort the landing The deck angle change prior to impact was similar to takeoff F/A did not notice the sound of reversers after touchdown. There did not appear to be a sense of urgency during evacuation Overwing exits were never opened After exiting, F/A remarked that weather was heavy rain and gusty wind. Rain was splashing up to windows in the police car and observed a couple inches of standing water Remembers observing weather and thinking "I cannot believe we landing in this, we had canceled for less than this before" The firetrucks were hosing the aircraft down, there were alot. F/A remember passenger count as 58, one child, one infant.

Interview with Delta Crew

Delta Flight 1215

Boeing 727

Interview with Delta Crew
Delta Flight 1215
Boeing 727

Captain was Greg Averi
First Officer Bill Watson

Crew reported landing at 16:30 and at the gate at 16:38 Local

The First Officer did most of narrative with Captain interjecting information from time to time. The First Officer was Pilot Flying.

They were on the Minks arrival and received a report from ATC that three aircraft had gone around. They had reports of high winds from ATC, 30 degrees of crab and unstable approaches.

They had an impression that KLGA had closed and discussed plans for a diversion. They held 2 turns at Stefe. They were vectored while on autopilot for approach to runway 13. They discussed weather and procedures; including offset localizer. First Officer discussed his intention to hand fly the approach.

Approach seemed normal down to 1,000 feet. Below 1,000 feet they encountered light to moderate turbulence; airspeed was +10 to -15 knots. Moderate rain was encountered while flying in and out of clouds. 1,000 to 1,500 feet Captain was able to see runway, First Officer had difficulty due to rain removal problems.

Winds were strong but not gusty. They had a noticeable crab of 15 degrees. They noticed unusually high power setting on the approach to the runway and used Vref + 20 knots for the approach. Reported winds for the approach were 080 degrees at 10 knots.

At about 500 feet the First Officer went visual. At that point they went high on the glide slope and believed it was because the First Officer looked up to adjust the wiper setting.

The airspeed was steady and saw no thunderstorms at that point. There were no LLWAS Alerts.

Both crew members reported that they did not see the VASI.

They further stated that the winds got less as they got closer to the runway. Winds were not gusty on landing. We estimated the winds in touchdown zone to be 20 to 30 knots. At the threshold we flew the aircraft at Vref + 15 knots. We had no problem bleeding off the airspeed. The braking was good and reverser deployment was delayed.

The First Officer reported upon going visual he noticed that the runway was to the right.

Interview with Continental crew

Continental Flight 1614

Boeing 737-600

Phone Interview with CAL Crew
10-22-96

737-300 Flight 1614

Capt Tor Delucia
F/O Flying Suech Patell

Al Baldwin – Manager of Flight Safety CAL
Tobie Carol
Lynn Ceruzzi – CAL Attorney

This flight crew landed just before Delta 554 on the 19th. Pilot Flying described flight from turn to final through landing: We briefed approach early because of the weather information we heard about. We maneuvered onto final with late turn on from Air Traffic Control. I had tried to engage the autopilot and it missed coupling because of the turn on so I hand flew the aircraft.

There was a 10 degree crab on the approach as best I recall. There was lots of heavy rain to where I couldn't hear the wipers but the ride was smooth. We broke out at about 500 feet and visibility was about 3/4 of a mile. We had a good view *of* the end of the runway. As we went visual, we started to go up on the glideslope and the Captain advised we were doing so. The landing was a normal cross wind landing; the flaps were 40 degrees; and the auto brakes were set to level 3. The roll-out was normal and braking was normal. The First Officer corrected for the offset localizer and the Captain advised that we were going high on the glide slope at breakout and as we were going visual.

As we were coming south over Manhattan at 4,000 feet and 7 miles out and were closing on the localizer. We weren't sure what the game plan was and requested for the "scenario." We were brought across the localizer and intercepted again over Tetterboro. Northbound heading at 4,000 and crossed the localizer nothing unusual. I believe the wind was 322 at 80 knots plus and it was pretty smooth. We were both expecting more to happen. Precipitation was on and off. Our radar indicated lots of red. We were above an overcast as we made our descent. There was real bad weather which looked like it was 20 north of runway centerline and we expected windshear on the approach. We were prepared and wired for much more than what we got.

At 4,000 we were crossing the Localizer on vectors: The FMS winds were 322 at 80 knots. On downwind, about 1,000 feet we were more concerned about getting established on glideslope. At 1,000 feet winds were off the centerline about 25 knots ("out of east or so upper 20s or 30's").

There was some real bad weather with vertical development of 20,000 plus while on top. We were on top at 7,000 feet in the clear and descended into overcast. Airborne radar was showing rain and we took a couple peeks for magenta. We didn't see any—just rain. There was a lot of red returns and from the buildings in there also. It looked like it was over **KLGA** upward of at least 6,000 feet approximately. Overall, we had a "wet picture." We were relying a lot on what ATIS was saying and our own experience. We did not get any windshear alerts. In my mind, there wouldn't be a play for the runway—just go around. We had plenty of time and fuel for that.

It was just a solid, uneventful approach. From last part, 500 feet to touchdown, the approach was stable, on speed—a sim environment where an instructor wasn't going to make it hard for you. There was no indication of gusty winds. Rolled out to 1st turn off so we didn't go very far. There was water on the runway and a, considerable headwind. We exited the 1st hi-speed turn after intersection of 4/22. The runway speed was very comfortable for turn-off. Estimate winds on short final and touchdown: not horrendously high, I'd say around 20 knots and 10-15 degrees off center line.

Noticed a higher power setting and slow groundspeed, seemed like approach was taking a long time. 1,000 feet winds were 20 knots to left of nose and stable. 55 and 60 on the power setting, and I would say power setting was normal. Taxiing in, no indication of gusty winds on taxiing in.

Did get Sigmet W-1. Don't recall Center Weather Advisory being issued.

737's have IRU's. This one did not have glass readout. Autothrottles were available, but not used.

Autobrakes: choices of settings are I-2-3-Max. Broke out at 1,000 feet and had 1 cloud below us that was horse-shoe shaped. What we saw was reasonable to way the approach is. He had made a mental note of it and when he saw it, "oh that's the way it is." Did not follow localizer all way down. Once runway was in sight and knew I was going to made it, I began maneuvering the aircraft to line up with runway centerline. I followed the approach profile until it made sense to make a little turn to line up on runway centerline somewhere around 200-300 feet.

Touched down in "the normal touchdown zone, as I remember the bump."

Remember any RVR reports from tower on Runway 4?: "no I don't."

In-flight visibility looked like what the tower reported. I remember 2 miles and rain. At Decision Height it might have been even better.

I was using the glideslope until I went visual. I don't remember the VASI and must have used visual cues to land.

There was quite a shift and reduction in winds– we were not bouncing around. From final approach **fix** inbound the precipitation was pretty heavy. We couldn't even hear the windshield wipers rain **was so** loud but it was smooth.

1,000 initial peek at runway through heavy rain. Considering the offset and we were across centerline it appeared fairly nonnal.

I would like to see FDR data if possible. There were no inputs for a play for the runway because *of* major winds or major airspeed increases or losses on approach. We **were** pumped up for a lot more but never got anything. It seemed more like a sim ride than anything else.

Do either recall seeing the VASI lights ? No, at this time. ,Neither Capt or F/O–did not see VASI lights. Yes, towards the end of approach and it was on the left side of the runway. Noticed 1/2 dot high on both the needle inside at 400. Airspeed was stable and it appeared it was more a function of him looking out rather than conditions.

At 400 feet we were ducking under a horseshoe shaped cloud and the rain was dissipating. It was overcast above.

Just prior to touchdown, there was between 10-15 degrees heading change during the turn. The wind was from the lefl and I had to push right rudder and touched down on the lefl wheel. I kept a little power in and flew it right onto the ground and it didn't float. I believe the heading shift was a combination of offset plus the wind.

During flare, the wind seemed constant. Wind was constant coming down the approach and as we went visual I had to straighten aircrafl around for offset.

Vref was ___ and addition was about +10 knots. Part of that was to prevent float down the runway—somewhere in there we got a call about windshear warning **so** ended up with +12 knots.

About 400 feet we went 1/2 dot high as sometimes you look out the window, you tend to pull back on the control column. By the time I corrected, I felt comfortable with where things were. I was looking out the window and not aware of airspeed bleeding off.

Nose pitch **was** used more than normal throttles on the final segment of approach. Power kept fairly constant all the way down.

Wipers were on high and doing good job of clearing windows. Repellent had also been used. Acquired runway at about 1,000 feet and lost contact again until about 500 feet. About 2 miles out we ran into some clouds traveling through environment.

We have a reactive windshear system-not **sure** of manufacturer.

Captain does not remember glideslope below 200 feet.

Within 10 miles of airport the ride was relatively smooth. While we were in rain it was a little rough. We expected a lot of things to have spilled in the back of the airplane and wondered how much they'd have to clean up and it was not a problem.

We were clear of clouds until just south of _____ near Statue of Liberty and began descent into clouds with a relatively comfortable ride. Rain was making it difficult to see from the cockpit.

As got in closer, the rain was less . 3,000 - 1,000 AGL and we were out of the rain. At a 1,000 feet we got our first look at the runway through the rain and then exited the heavy rain area. We experienced light rain to drizzle the rest of the way down to touchdown. We got heavy rain again by the time the plane got to the jet way. At the jetway, water was blowing through the top of the jetway. Force of heavy rain was coming into the jetway and not sure if it was the weight of the water or the wind that was forcing it in.

Looking at radar, I felt it was safer to the north up by orchy. That was my mental note for a go-around. Early on in the visual approach, it got comfortable and I felt we were going to make it.

Rain repellent was used shortly after descent maybe about 3,0000 feet. We had the wipers on all the way to touchdown. 2 shots of repellent on the First Officer's side and the Captain had one from previous approach. IN time was 16:39.

Interview with USAir Crew

USAir Flight 2 12

Boeing 737-300

US AIR CREW INTERVIE
10-22-96 16:00 CDT

US Air 737-400 Flight 212

James Dunn [redacted]

Preceded Delta 554 on approach.

737 had FMC but analog gauges. The crew was on a 4 day trip sequence. Aircraft blocked in at 16:38.

Pilot flying aircraft: We had taken off from Regional Southwest Airport in Florida (RSW). We held for 1 or 2 turns just above the weather and all of a sudden we heard over the radio that they started shooting missed approaches. Operations notified us through ACARS that aircraft had gone missed and 1500 msl winds were at 70 knots crosswind. This information was unsolicited.

We left the hold, everything was pretty much normal-normal. Both the Captain and myself talked bout doing a missed approach because the weather was so bad and gusty from the initial ATIS report. I believe it was 1300 overcast 16 gusting to 27 winds. We were prepared for the worst and thinking about a go-around. The next ATIS was 1300 overcast and they dropped the gust component so we talked about which brake setting to use. Max was selected originally and we then pulled it back to 3. The autopilot coupled down to _____ feet.

In the weather and I was watching the gauges and don't recall actual path they (approach control) gave us. I can't be sure of which way we turned on to final.

There was a lot of precipitation. We were prepared for the worse and commented we bounced around but we both commented that *it* was not as bad as we thought it would be. We knew it was a strong wind and spun our bug speed not up to 20 knots, but quite a bit. I was really working with the throttles and watching airspeed for wind shear. We both made comments on the ground that it was a strong wind but not as bad as we expected.

I took control of the airplane at about 1,000 feet. I did not have contact with airport. It stuck in my mind that ATIS had called it 1300 overcast and I peeked out at 500 feet radar altitude and didn't see a thing. At 400 feet we broke out and had the lights in sight. Airspeed was bouncing up and I was concerned about being blown to one side or sliding off the end, I didn't jockey throttles a lot, but I'd say little to medium. I was conscious about getting slow. It was bouncy, but not as bad as I thought.

I can't really recall precipitation. We got in and out of it, but I can't be sure when.

'We had the ILS dialed up and I normally glance outside; and monitor VVI, airspeed and radar altimeter. Around 200 feet I was visual, but did kept good eye on airspeed so I didn't

get slow. Used eyeball method on visual to the runway. I don't recall seeing the VASI at all. I am aware it is an offset localizer.

I didn't make any gross movements for corrections when we broke out. I had to turn over to runway because it was offset but nothing big.

I believe I had to make about a 15 degree correction *to* get back over to the runway but I can't recall which direction I was holding. I cannot truly say I ever say the VASI.

The aircraft had dual IRS units. FMC has a map, HSI and compass indicators. Captain may have had winds displayed on his side. Power was set up higher than I normally do because of the winds anyway. I anticipated conditions and left everything on the high side and so the speed was higher also. Weather reports were for heavy rain and I pictured lots of water on the runway and anticipated directional control problems and what I could do about it.

Below 1,000feet on approach, I felt it was pretty much normal all the way down with normal up and down corrections. Turbulence wasn't that bad from our perspective vs what they were calling. There was a strong crosswind from watching the compasses but not as bad as we anticipated. The turbulence was light to moderate chop at worst. I added 10-15 knots and watched my airspeed. It jumped up or down 10 knots at most. There were no wipers on or rain repellent used. Our radar showing all yellow as I recall. It wasn't red that much we knew.

Light rain and heavy rain began as we were inside terminal building looking out a window as we got in because we remarked once inside the terminal it was lucky we got in.

We had autothrottles and clicked them off at 1,0000 feet because of the winds they were calling they (the throttles) tend to lag.

We remarked that winds 16 knots gusting *to* 27 to steady 16 it wasn't as bad as we had anticipated. There was light to moderate turbulence on descent but it was not actually that bad.

I'm not sure what kind of radar is in the aircraft.

Winds varied up and down; +20 to + 25. Vref was 138 and sometimes the airspeed got to 160 - 165 below 1,000 feet. If I had to guess at it, no it would just be a guess.

When I acquired the runway lights, I believe they were off to my left, I believe I had to bring it around to the right.

Interview with USAir Crew

USAir Flight 184

Boeing 737-300

Phone Interview with U S Air
Crew member from Flight # 184

Philadelphia based First Officer John Waschbusch was the pilot at the controls of a Boeing 737-300 enrout from Pittsburgh, Pa. To LeGuardia airport in Flushing, NY. on October 19, 1996. This phone interview was conducted by the Operations group chairman from NTSB headquarters in Washington, D.C. on October 25, 1996.

The FIO stated that he believes that Flight 184 landed about 16:36 local time. The flight held enroute at Milton(MIP $109.2_{Mg.\ Hz.}$) VOR about two turns and ATC told the flight that the hold was for a runway change at LGA, and also advised the flight that some arriving airplanes had gone around. During the hold the flight had received a WX update via ACARS(this update was not requested) form the dispatcher of the flight. The WX reported by the flight a the holding fix was IMC with light to moderate chop and engine anti-ice was in use. The flight left holding on vectors by ATC toward LGA, the vectors took the flight across the final approach course on a northerly heading then was turned to the west for the downwind leg. The flight reported the WX on downwind as in and out of rain showers and the ride was smooth. The FIO reported that he could not remember what his angle of crab was going in bound on the localizer but the airplane was in continual light rain, at 500' agl the airplane encountered a "Wall of Water" that required the use of windshield wipers and rain repellent. When the airplane reached 300 agl it was VMC with light rain and the FIO stated that he recall holding a 5-7° left angle of crab and was a little high on the Glide Slope: The runway lights were in sight ahead and he felt he was OK. The FIO stated that he did not see the VASI lights but could see Rikers Island out the left side windows and his touchdown point was about the intersection of runways 4/22 due to his speed, V_{ref} Plus 10^{kts}.

Additional Comments.

100'-200' the F/O reported that he went high on Glide Slope and drifted left of course.

Once he went visual he did not go back in the cockpit to reference any instruments.

The F/O reports that he heard of a new ATIS but was to busy to monitor it during the approach.

During final approach with the autothrottles engaged the airspeed varied only ± 5-10^{kts}

No mention of LLWS from ATC but saw SIGMETS prior to departure From 1000' down only light turbulence and light rain.

Was able to see the intersection of runways 4/22 from the time he went visual.

Recalls no RVR reports, had no visual problems with the landing, no water on windshield during landing.

The F/O reported that he felt the wind from 1000' down was 100° at 15-20 Kts And the angle of crab he held reinforced his estimate of the wind.

The autopilot and autothrottles were disengaged at about 300, at this time he reported the airplane was to the left of course and high on the glideslope, no airspeed calls.

The landing was made with the flaps set at 30° and the autobrake set at 3 0r 4. He reported that his landing was a little long.

The F/O noted a normal descent of about 5-700' fpm and normal power settings going down the glideslope to touch down.

Interview with United Crew

United Flight 1576

Boeing 727-200

UAL CREW INTERVIEW
United Flight 1576

Captain Neil Martin

737-300 Flt 1576

We held an hour out of New **York** at Tessy intersection. The weather at 29,000 feet light *to* occasional moderate; we were in and out of the clouds. It **was** just a **1 turn** hold. We were on the Milton arrival. It was pretty routine but turbulent. Light turbulence with occasional smooth but not very often. We were not in any precipitation until we got **close to** the airport.

We ***got*** delaying vectors below 18000 feet, **it** was just burning up time for spacing I guess. **I** had the radar on and off as needed. We were in clear **sky** to the southwest of the New **York** area. When we finally got turned northbound we got into the weather. Tops were variable.

We were being vectored from the south. We crossed final near the airport and flew north across final. The radar **was** on and returns were almost all green with **a** few spots of yellow and moderate precipitation. When you get around Manhattan it's pretty hard ***to*** filter out buildings. The ground clutter suppression switch worked pretty well. Doppler turbulence showed just scattered areas of purple. Didn't pick up any cells. Didn't appear to have any convective activity.

We went 5 miles north of the localizer and then was vectored westbound, **I** believe it was about 4000 feet but don't recall.

From **about *5*** miles south, we were in continuous light precipitation; continuous light *to.* occasional moderate turbulence and no ice was formed. **I** do recall turning engine anti-ice off. **As** we approached our turn to final, the wind were perpendicular to the final course or close *to* it from the north side at 61 knots. **I** noted that and we speculated we were going to miss our turn to final–I believe we were at 3,000 feet.

We intercepted final several miles outside of the final approach ***fix*** (FAF) at 3,000 feet a comfortable distance away from the marker. The weather remained the same at the final approach fix, light to moderate precipitation; light ***to*** moderate turbulence. Judging by the sound on the windscreen, we were in continuous light rain with occasional increases to moderate rain. Not heavy rain, just moderate.

I was flying and the autopilot was in command. Crossed the marker and intercepted the glideslope. Checked in with tower and don't believe we got an answer. Heard the tower tell someone to go. Anticipate us doing the same.

I don't believe we got **below** 1500 feet but, we were nowhere near the ground when we initiated **a** go-around.

Radar down final saw nothing other than green and scattered purple for doppler returns. The purple was scattered over the whole screen. I was happy with the autopilot's performance on approach Tower directed the missed approach to climb on the localizer. We were IMC the entire time, never broke clear of the clouds, or never noticed we did; continuous light precipitation and continuous light to occasional moderate turbulence I would guess we got as close as 4 miles to KLGA before turning north on the missed approach. We got north a good distance oh, about 30 miles, when we got out of the precipitation and on top about 19,000 feet in the clear although there were variable tops and layers on the way up.

I don't recall the crab angle on final. I can speculate and say that it was quite a bit.

We have a glass cockpit with wind vector and groundspeed in the cockpit and nothing jumped out during the approach that got my attention. All indications were what we would have expected We were using autothrottles on the approach and there were no large changes in the autothrottles. They were fairly steady. We had engine anti-ice from holding on down We were in and out of cloud tops and sides from the holding pattern on down.

Don't remember ATIS information. The controller did give a weather update in a general broadcast and I believe the wind was 30 knots but can't say.

We were adding our max additive of 20 knots to our 30 degree flaps Vref.

Don't recall any Center Weather Advisories We had received Sigmets through electronic datalink. We requested some and dispatch also sent some to us. While holding, I believe we were with New *York* Center.

I have no specific recollection of power settings on approach so I would have to say they were normal and appropriate.

I expected the winds to decrease as we descended but I can't tell you if they did or not

We can land at 30 or 40 flaps. Our procedure says 30 degrees for windshears suspected. Never had any windshear alerts or reports. We were inside the Final Approach Fix when we initiated the go-around. At the missed approach point I disengaged both the autothrottles and the autopilot.

We had selected 3 on the atuobrakes.

I have experienced a windshear alert in the aircraft. One in Colorado Springs, it was a beautiful day on final to 35 right. I had initiated a go-around prior to the machinealerting it. The other one was in Tulsa with dry cold front passage and got the alert at 300 feet and went around. In neither case, did the tower have any information of windshear in the area.

Believe the only windshear information I got was on ATIS but I can't specifically recall.

We discussed the possibility of windshear problems, stopping distance on a wet runway and the usual approach stuff on the plate. We only talked about we had only 1 shot on the approach due to fuel. We had discussed missed approach plans and our alternate. We talked about the 3 degree offset and glideslope. We covered that material and didn't find the higher decision height unusual as there another places that have high minimums.

I saw a weather map during our pre-departure briefing. It gave me a good broad based idea of what was out there and causing the situation.

On approach, only recollection I have is a strong left crosswind. There was turbulence so things weren't rock steady but the autothrottles and autopilot were doing a competent job.

I would have disconnected 500-600 feet had the approach continued.

Interview with Delta crewmember

Deadheading on Flight 554

Interview with William Kams
Deadheading Pilot Flight 554

First Officer on a Boeing 727

He was seated in 1st class, last row on the right side window (4D). I slept through most of the flight and it was a deadhead flight home. I barely caught the flight, I got on board. Nothing unusual about it to New York As we got close to New York someone came on the mike and said we were in a holding pattern. We did turn or two.

Not paying great deal attention to it so far.

As we descended through the clouds, there was a little rock and roll but not to where the pilot was going stop to stop on the ailerons or anything. I'd estimate the turbulence light to, under the new definition, of maybe moderate chop, nothing more than that. I did not notice any precipitation or anything streaking by windows.

I assume we were in the approach phase—appeared to break out just west of the Rikers Island bridge, but again keep in mind this is just from looking out the window. I recognized the bridge.

From the final approach fix (FAF) to bridge the ride was not bad. Nothing again, light turbulence to moderate chop at the outside. I did not notice any precipitation going by windows, but there may have been light precipitation but didn't strike me it was terribly severe.

I noticed shortly afler that time period, it is difficult to judge just sitting back there watching, we made a correction, you know its an offset localizer, it appears he made a normal correction for proper runway line-up. I glanced at the water and it appeared bay choppy but not whitecapped. I have no idea at what altitude we were at this point.

It appeared to be a normal approach. Shortly afler that, I heard the power coming up and I thought, oh shoot, we're doing a go-around and imagined another 15 minutes up on the pattern. We then appeared to strike something—it went bam-bam-bam and I thought oh Christ, we hit the end of the runway. I've never been in a crash before, but it was a surprise to me that nothing jolted, or things weren't flying around etc.

I've made approaches as a passenger to 13 before, and the pier goes by quickly and so up to that point I wasn't concerned. At the jolt I became concerned. I didn't notice more than 1 impact, but it's difficult to judge. As I think back, there was only one and then the crunch and the aircraft slid.

As engines came up, I noticed a pitch change–it sounded and looked like a go-around mode. There was a pitch change, power and pitch change and then a couple of seconds later the aircraft impacted.

As the aircraft started down the runway I heard sliding sounds and I thought oh man, we're on the belly. The aircraft slued nose right then nose left and then did a 180°. The ride down the runway wasn't too bad at all. It struck me that we were on our belly. It was in my head that we lost the right main and then the left one collapsed–this is what I was thinking.

After the aircraft came to a stop, I unfastened my seatbelt and looked back into cabin. It looked like a normal cabin. No one was getting up out of their seat; screaming or yelling. I was looking for a break in the fuselage, tire or damage and none of that was there.

Done on right hand side, no overhead bins popped, no masks, nothing.

After the evacuation command, I looked around to check for injuries in my area. I held back to see if I could help, if not, stay out of their way.

I did not hear any warnings from the cockpit like glideslope, pull up pull up or anything. The cockpit door came open at that point and I said to one of the girls I smell fumes and immediately afler that the order to evacuate came (fumes smelled of jet fuel).

At the end of the slide there were firemen everywhere. I was amazed at the quick response. Passengers were trying to take shelter as it began to rain heavily at that point. It appeared to be a drizzle earlier. The heavy rain was not real heavy but wet. I was soaked to the bone by the time I got to the terminal.

I fly a 727. The pilot (of this flight) made a correction in heading and I assume that was for the offset of the localizer. He made a slight right turn. I doubt a passenger would have noticed it but I did.

There were no significant power changes like jockeying of throttles.

There were no major pitch changes right afler I saw the bridge. I can't say there weren't any made. Nothing stands out in my mind. Right afler I saw the bride I noticed the correction to the right. Seconds later I noticed the application of go-around power and then a pitch change. There was definite power and then pitch up–almost simultaneously and my gut reaction intuitively was "go-around."

PA first made to wait for instructions. I then looked back to see if there was any damage to aircraft and sat down again.. Seconds later the order to evacuate came.

I was in uniform at the time. I don't remember the gear coming down. I had the feeling we were on final approach and I may have heard it in the back of my mind but did not notice it

That ride down the runway seemed eternal and I was thinking we were going to go swimming and my breast stroke ain't that good. When it did stop finally it was kind of anti-climatic–there was no fire, no smoke, the airplane was intact. All I thought was geez, I'm going to get wet.

I did get a visual on the Rikers bridge on the approach. I could see the land end of the island but don't remember seeing much beyond that.

I followed one of the last passengers. One of the last things I did was watch the Captain and couple of flight attendants helping an old lady to get off. The only ones left were the crew and an older couple.

I never entered the cockpit but I did notice it was lit up and appeared to have full power which I was a little surprised about. This was prior to evacuation. The First Officer was talking on radio.

It was windy, wind not like 40 knots or anything. Maybe 15 or 20 knots of wind. Conscious of being wet. I was not being buffeted or a lashing of rain. During the van ride I noticed that taxiway mike was completely flooded. There was semi-heavy rain as we were wet. The van had wipers on and I thought van was going to stall out frankly. There was a lot of water on the SW side of the airport.

Had I thought the pilot was fighting the weather on the approach I would have paid a lot more attention. It appeared to be a normal approach.

There was no standing water on runway. The crown of the runway was fairly dry and taxiways were flooded. Exited L I door. Was outside just a few minutes before getting into van. If it was 5 minutes it would surprise me. Surface around the plane was wet but no standing water. There was an appreciable change in rain intensity after getting into the van.

There was one impact, fairly sharp jolt and then it appeared the plane was on its belly. I didn't feel like I was tossed around a lot. Maybe pushed a little forward, but I can't say that I was. I was not slammed against sidewall or pushed against seat in front of me or anything like that.

Interview with USAir Shuttle Crew

USAir Shuttle flight 6491

Boeing 727-200

Phone Interview with U S Air Shuttle
Crew member from Flight # 6491(?)

Capt. Jeff Inman: Was pilot in command of USAir Shuttle flight 6491. His airplane was in the number one position for take-off on October 19, 1996 at LaGuardia airport in Flushing, New York.

He had arrived at LGA at about 15:15hrs. local inbound from Washington, D.C. During the approach to runway 13 he reported that his airplane experienced conditions that were rough as HELL, with surface gusts to 30KTS. His airplane had to fly with a 20^0 crab angle to maintain course on the localizer.

At 16:30 flight 6491 taxied out for take-off on runway 13, during taxi the Capt. Reported that he was using the windshield wipers from time to time and the weather conditions he observed were low clouds and light rain. The accident airplane first was observed about 1000 feet from the approach end of runway 13. The flight attitude, of the airplane, appeared normal at that time. The accident airplane was slightly to the right of course but OK. Then the airplane started a correction to the left, to line up with the course, got the nose way up and started sinking BAD. At this time the Capt. thought that the impact point with the end of the runway deck would be in front of the wing area, the right wing dipped, the airplane was still sinking, the power came up and the impact point appeared to have moved to the area behind the wing. The airplane still had the right wing down and the Capt. could not see, but knew the wing had struck'something. The wings leveled and the nose dropped, the airplane struck the end of the runway deck in a almost flat attitude, a good belly landing. After impact the right engine cowling opened and started coming off, as the airplane continued south east down runway 13 more parts seemed to be coming off and it passed from the view of the crew. The Capt. remembers the reported weather at the time of the

accident as being "runway 13 RVR 3000/touch down, 2200/roll out, wind 100^0 at 11 Kts.".

The Capt. reported that he had stopped his airplane about 50 feet short of the HOLD SHORT line, but he could not remember why. In retrospect, he said, if he had not stopped short of the line his airplane would have been in the middle of the debris coming from the accident airplane.

Interview with Delta employee

Ramp Tower Supervisor

Interview with Angel Rosario

Supervisor at Delta Air Lines. I was located in the ramp tower on top of terminal by gate 6, on the roof.

Weather conditions: heavy rain, heavy wind smacking against the windows at time. You can feel and hear it when it gets windy up there. Low visibility from time to time.

554 cleared to land and the tower agent yelled out no, no. I looked up and saw the airplane sliding down the runway and stopped with some whit smoke while it was sliding.

At time heavy rain, windy. Couldn't estimate wind. There was a wind cone up there but notice it at the time. During the course of the afternoon the wind cone was straight out and flags across by US Air were straight out.

It was foggy at the time of accident. We could see as far as the Welcome to New York sign by runway.

Rain was hitting against our windows, but couldn't be sure at the time of the accident.

2 hours before accident had steady rain. Taxiways were underwater, like a little swamp. That area tends to flood all the time anyway. Did not see any lightning or hear thunder. Too foggy to see any type of cloud base. Thought wind was blowing from the north to the south, but wasn't an expert on that.

Rain was heavy a couple of hours before the accident. Intensity did not change, pretty steady and may have gotten worse after the accident.

Wind conditions 2 hour prior: steady with strong gusts. Up there in cab every thing rattles and you could feel it die down and come up again. I remember it was pretty windy right afterwards because it took me 20 minutes to locate binoculars to look at aircraft. When I used them it was pretty windy.

Been here over 3 years and been up there when lightning has hit up there. This is one of the worst I've seen for rain quantity. As far as wind, I can't say it was the worst but it was up there with the bad ones.

Don't recall any water spraying up from aircrafl while sliding down the runway-

Statement from Delta Ramp Employee

(FOR INTRACOMPANY CORRESPONDENCE ONLY)

DELTA
AIR LINES

DATE: October 22, 1996

TO: Clay Rieder

FROM: Joe Puccio PHONE:

SUBJECT: Flight 554 accident on 10-19-96

On October 19,1996 while coming back from customs, I Caught flight 554 from the corner of my eye. At first I thought the plane was making a routine landing as it went past me, until I had seen the tail of the plane swing around 180 degrees and come to a stop. Not knowing what had just happened I decided to turn onto the runnway and try to help or assist in any way that was possible. Once I had reached the airplane the flight crew had already opend the door and were starting to let passengers out. I assisted in helping people off of the evacuation slide. Once everyone was off, the pasengers were them escorted to different vehicles. The passengers were then assisted over to Gate One by myself and employees of TWA.

Joseph Puccio
ACSA Delta Airlines