

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

November 23, 2009

SURVIVAL FACTORS GROUP CHAIRMAN'S FACTUAL REPORT OF
INVESTIGATION

A. ACCIDENT : DCA10IA001
LOCATION : Minneapolis, Minnesota
DATE : October 21, 2009
OPERATOR : Northwest Airlines, Inc.
AIRPLANE : Airbus A-320-212, N374NW

B. SURVIVAL FACTORS GROUP

Nora Marshall, Chairman
National Transportation Safety Board

Malcolm Brenner, Member
National Transportation Safety Board

Scott J. Krueger, Member
Federal Aviation Administration

Candace Kolander, Member
Association of Flight Attendants

Tricia Ahrenholz, Member
Delta Airlines

C. SUMMARY

On October 21, 2009, Northwest Airlines (NWA) flight 188, an Airbus A320, N374NW, did not respond to air traffic control communications for approximately one hour 17 minutes during cruise at FL370. Flight 188 flew past their intended destination while the flight was NORDO (no radio communications) but landed without further incident once radio communication was reestablished. There were no injuries to the 5 crew members and 144 passengers onboard. The flight was a regularly scheduled passenger flight operating under 14 Code of Federal Air Regulation Part 121 from San Diego International Airport (SAN), San Diego, California, to Minneapolis-St Paul International/Wold-Chamberlain Airport (MSP), Minneapolis, Minnesota.

D. Details of Investigation

1. Flight Attendant Information

Three flight attendants were assigned to flight 188.

Position A, (Lead FA)
Bonnie Nashopulos

Date of Hire: May 22, 1972
Last Recurrent: September 2, 2009
Integration Qualification¹: August 6, 2009
Flight Attendant Certification No. 2904685
Qualified on Northwest fleet: DC9, A319/A320, B0757, A330 and B-747
(Not qualified on Delta fleet at time of incident)

Position B, (2L)
Barbara Logan

Date of Hire: April 14, 1969
Last Recurrent: March 27, 2009
Integration Qualification: August 10, 2009
Flight Attendant Certification No. 2904685
Qualified on Northwest fleet: DC9, A319/A320, B0757, A330 and B-747
(Not qualified on Delta fleet at time of incident)

Position C (Swivel Jumpseat Seat)
Carol Jones

Date of Hire: May 11, 2001
Last Recurrent: November 24, 2008
Integration Qualification: October 22, 2009
Flight Attendant Certification No. 3072105
Qualified on Northwest fleet: DC9, A319/A320, B0757, A330 and B-747
(Not qualified on Delta fleet at time of incident)

All three flight attendants were interviewed by the Survival Factors Group (Malcolm Brenner, NTSB; Scott Krueger, FAA; Tricia Ahrenholz, Northwest/Delta Airlines; Candace Kolander, Association of Flight Attendants) on October 26, 2009, at the Northwest Airlines Training Center in Eagan, Minnesota. Summaries of their interviews are included below:

¹ Integration qualification is a three day training program for pre-merger Northwest flight attendants. The training program includes information about the new Delta, Emergency Procedures, Security, Crew Resource Management, Medical and Event Management Scenarios.

Position A, Lead Flight Attendant

Bonnie Nashopulos

Ms. Nashopulos was represented by Ricky Thornton, Association of Flight Attendants, during the interview.

Ms. Nashopulos was the lead flight attendant on Flight 188. She had reported for her flight 3-4 hours early on October 21, 2009. She usually gets to the airport about 2 hours ahead of time because she does not like to “run for the gate.” She arrived early on October 21, 2009 and studied for her Aircraft Qualification Training (AQ).

She often bid San Diego (SAN) turnarounds and this trip was part of her bid line. Her first flight was Flight 187 from Minneapolis (MSP) to SAN. She had a briefing with both pilots outside of the cockpit and they told her to expect a “lot of weather” which they described as “intermediate turbulence.” The flight to SAN was uneventful although turbulent. They arrived late, which was typical for this flight.

The flightcrew from Flight 187 left the airplane and new pilots boarded for Flight 188 from SAN to MSP. The scheduled ground time between flights 187 and 188 was 43 minutes which is a fast turnaround. The 188 pilots gave a typical crew briefing (outside of the cockpit) that included flight time, weather, turbulence prediction, blocking entry to the cockpit, and seat belt announcements. Both pilots participated in the briefing which lasted less than 5 minutes. It was a quick introduction, and then she had to start boarding passengers right away. The pilots said that they would make a Seat Belt Announcement when the Seat Belt sign was turned on and they expected the flight attendants to “back them up” with a seat belt sign announcement. She received a briefing sheet but discarded it after the flight. The captain told her that the weather would be the same going back to MSP as it had been inbound. An aft lavatory was blocked off with service tape and identified as usable only for “crew.” She was impressed that the captain reviewed the log book to determine why the lavatory was “MELed”. The lavatory had a broken latch under the sink and was blocked from passenger use because the unlatched door provided access to a smoke detector.

Following takeoff, she conducted a beverage and meal service in the First Class Cabin. She offered left-over first class meals to the flight deck crew after the cabin service was completed. When she offered the meals to the flightcrew, the captain indicated that he wanted to use the lavatory. The cabin crew followed their security procedures to allow the captain to use the lavatory. The Lead Flight Attendant entered the cockpit and monitored the cabin through the cockpit door viewing port. A flight attendant from the aft cabin came forward and served as a blocker outside of the cockpit door. The captain used the lavatory at approximately 7 PM (CDT) and returned to the cockpit within minutes. She stated that the captain ate the meal she provided but the F/O had brought a salad onboard with him and told her that he would “look at” the meal she provided. She stated that the Delta crew meal policy was for the F/A to offer a meal to flight crew if there were extra meals. The crew’s contract did not require that they be provided a meal

so it was not unusual for the crew to bring food with them. The policy was that the crew could have one non-perishable item per person. She retrieved the trays from the cockpit about 30 minutes before landing after the pilot's announcement to prepare the cabin for landing.

She began to get concerned about connecting flights when passengers began asking about Amsterdam (AMS) and one person asked about their arrival time. At about 8:10 CDT, while the Lead F/A was in the aft cabin, she overheard "Barb" call the cockpit to find out about arrival time. It was her impression that the cockpit answered the interphone "right away." Barb told her that "he told me in "Zulu" time" and the Lead F/A told her that the time he gave meant 9:00 PM CDT.

She said that flight 188 typically had about 20 people who connect to the Amsterdam flight which had a scheduled departure time of 9:35 PM (CDT) and she began to be concerned about their connections. The Lead Flight Attendant returned to the front cabin and called the cockpit at about 8:15 to find out about the gate connection for the Amsterdam flight. After sufficient time had passed to receive the ACARs information, she called the cockpit again at about 8:30 PM and got the Amsterdam gate number. She thought that they had begun their descent at that time. A flight crewmember made a PA announcement "between phone calls" indicating that they would land around 9 PM.

After landing, she thought that they had an "average" taxi time and she estimated that they arrived at the gate at about 9:20 PM. She thought that everything was "normal" about the flight until they got to the jetway. It was unusual that so many people, such as the gate agent, uniformed police officers, FBI, company officials and the Chief Pilot, were on the jetway. A large group of people boarded immediately and instructed her to tell the passengers to remain seated. She made the announcement in a deliberate voice and the passengers immediately sat down. She said that the passengers nearest the front sat down first and then it was like a wave as the passengers in the following rows sat down. She was pushed into the galley and she asked someone if they could tell her what was going on and someone told her that they had "overshot" MSP.

She did not think that anything was wrong on flight 188 nor did she think that the flight was "really long." She had been flying SAN turnarounds for the entire month and it was not uncommon for flight 188 to run late, in fact, it was "always late" and never "ran as usual." There were no "red flags" raised because they did not see the ground due to the cloudy conditions, they knew that the runway construction had an impact on the timing, and it was raining in MSP.

For the past 5 years, her typical bid lines were "turnarounds." During the month of October, 2009, all of her trips were San Diego "turns" and they had always been late. She was so familiar with the schedule that she knew that the pilots schedule was to go from San Diego to Minneapolis and on to Spokane. They always had been rushed on the ground in San Diego. For example, on a good day it takes at least 15 minutes to deplane the inbound passengers.

She was asked about typical cockpit/cabin communications and she described that the flightcrew announcement to “Prepare the cabin for landing” is a communication to the flight attendants to begin preparations for landing. The “double ding” is an indication that the airplane is below 10,000 feet and sterile cockpit is activated. She said that she was still getting used to the new procedure of using a “double ding” instead of a green indicator light for sterile flight deck notification.

She thought that the green light procedure was a better procedure than the double ding to signal sterile flight deck because it provided a visual cue. Additionally, she liked the green light because it helped her upon arrival at the gate with the “door transition.” She stated that the green light went out before the seat belt sign went off at the gate. Since the merger and the elimination of the green light upon arrival procedure, she has to look out the window at the gate. She thought it was a great tool, especially for new flight attendants. Delta Airlines did not use the green light signal so, as a result of the merger, Northwest removed it.

Communication procedures have changed substantially since 9/11. Flight attendants can not access the flight deck as easily as before. In general, pilots let you know that the less you open the cockpit door, the better.

The pilots call the flight attendants on Airbus aircraft to notify them that they are ready for takeoff. On other aircraft types, the flight attendants use the interphone to notify the cockpit that they are ready for takeoff. However, the sound of the Airbus interphone was so annoying to pilots that they were distracted and the procedures were changed on that aircraft type.

She had not flown with either of the flight 188 pilots previously.

She believed that Flight 188’s captain was very nice and easy to work with. He introduced himself to her when he boarded and he seemed “right on top of things” and completely aware of the flight plan. During the preflight briefing he squeezed a lot of information into very little time. She thought that he showed respect to the cabin crew because he took the time to review the log book and explain why an aft lavatory was blocked off. The captain seemed alert. He had just come off a layover.

The F/O was a “nice guy” and the flight crew seemed to “get along” with each other. Both pilots seemed friendly. When the captain came out of the cockpit to use the lavatory, she remained in the cockpit and chatted with the F/O. She asked whether he was going on to Spokane. He had bought a salad which was at his side. She did not think that she said a lot to him because he was the only pilot and she did not want to distract him. When asked if the F/O was wearing an oxygen mask when the captain exited the cockpit, she stated he had it in his lap when she entered the cockpit but she was turned around facing the cockpit door and did not know whether he actually donned the mask. She was monitoring the viewing port, and watched the lavatory light through the port and had her hands on the door.

She stated that there was a written policy for F/As to call the cockpit during the flight in the event of a fire or disruptive passenger but no policy for contacting the pilots during a routine flight. She stated her concern that some F/As call the cockpit too often and it could be distracting to the cockpit crew if F/As called every 15 minutes. She was asked if she had flights in which she had no inflight communications with the cockpit crew and she said that she did not have flights without contact because her flights were longer. She stated that flights such as MSP to Rochester, Minnesota, might not have inflight communication because they were so short. She stated that policy allowed any flight attendant to initiate a call to the cockpit.

She expressed concern about the interphone system on the A-319/A-320. Her concern was that if she was in the aft cabin and the crew called the forward interphone, she could not answer it in the back. It had to be answered in the front.

B Position

Barbara Logan

Ms. Logan was represented by Ricky Thornton, Association of Flight Attendants, during her interview.

The flight from MSP to SAN was 11 minutes late due to runway construction. They had a short turnaround time in SAN and there was a cockpit crew change. There was a briefing in the front of the airplane with both flight 188's pilots. She indicated that some of her flights "run together" but she recalled that the pilots told her that the flight time would be "three-something" barring runway construction and/or weather.

She described herself as a flight attendant who calls the cockpit "a lot" about the seatbelt sign. She is a safety "freak" and is concerned because it is hard to keep people in their seats and she has seen passengers standing holding babies when it is turbulent. During the service she called the crew and asked that they turn on the seatbelt sign because it was bumpy in the back. The captain turned on the sign and told her that he would "iron out the bumps." He turned on the sign and left it on for quite a while.

She was expecting to land at about 8:01 CDT and at about 8:15 CDT she looked at her watch. She called the cockpit to ask, "are we going to get there any time before midnight?" The captain (all of her communication with the cockpit was with the same person and she believed that it was the captain but was not sure) told her that they would be there by 12 O'clock Greenwich time. She told him that she did not know "Z time" and he joked that she was in trouble. Bonnie told her that 12:00 O'clock Greenwich meant 9:00 CDT.

She was in the front galley when Bonnie called about connecting flights. Bonnie told her that "he didn't give me the gate." Bonnie called back later and he gave the gate number for Flight 56 to Amsterdam.

She estimated that it was about 8:35 when the pilots made the PA announcement about preparing the cabin for landing. After they got to the gate (at about 9:15) there was an announcement to disarm the doors and passengers began to get up. She saw the gate agent and police at the front of the cabin. She deplaned and went home.

She believes that cockpit/cabin communications are mostly positive and that she feels free to talk to them. Some crews tell the F/As to call about anything but some crews are “not as receptive” when she calls about the Seat Belt Sign. She is very alert to the need for the seatbelt sign to be turned on when it becomes bumpy in the back and she is likely to call the cockpit to request the sign be turned on. She stated that 4-5 years earlier she had been told by a flight crew not to use the interphone to call them because of the interphone chime. She also recalled that one pilot told her to call anytime even if it (the chimes) were loud. She did not recall any recent requests not to use the interphone. Another concern about the interphone was that the interphone cannot be used to call the pilots from the aft cabin if the flight attendant in front is already on the interphone.

She called the cockpit three times on flight 188. First, she called to tell them that it was too hot in the cabin and they answered right away. The pilot jokingly asked whether she had used ice yet. He told her that he would cool it off and the cabin cooled down. Second, she called during the service about turning on the seat belt sign during the service. She said that it was “not long” until he answered and estimated that it took two rings. Finally, she called about the arrival time. She estimated that he answered in 3 rings and sounded a “little surprised.” There was a pause and then he gave her a “Greenwich time” arrival time. It was as though he had to think about it, a little more surprised and a little different than the laid-back responses he normally gave. She said that pilots do not typically provide Greenwich times to the flight attendants. She said that all of the pilot PA announcements sounded normal.

She described flight 188’s cockpit crew as “normal guys” that “seemed fine.” When the boarded they were not wearing their jackets and hats, perhaps because it was hot at San Diego. The captain seemed alert and looked fresh as though he had received a good night’s sleep. The first officer also looked alert, about the same as the captain. They seemed to get along fine with each other.

F/A Position C

Carol Jones

Ms. Jones was represented by Dan Streed, Delta Airlines, during the interview.

She was hired in May, 2001 and was furloughed for 3 ½ years after September 11, 2001. Her most recent recurrent training had been November, 2008. She had been through Integration Qualification (IQ) that was required after the merger of Delta and Northwest. She was a “Reserve” flight attendant and had acquired the trip on October 21, 2009 from reserve. She also serves as a “PBS” instructor. Her duties as a PBS instructor require her to provide instruction on monthly bidding to flight attendants on the ground. This Northwest PBS F/A bidding system replaced the old Northwest SLIC F/A bidding system.

She was assigned the trip (MSP/SAN/MSP) from Reserve and the flight was delayed out of MSP. A new cockpit crew boarded in SAN and she went up to the front and introduced herself to the flightcrew. The F/O was getting ready to go out and inspect the airplane. The captain asked for coffee, and she brought a cup of coffee up to him a few minutes later. She asked the captain about the weather. He said that they would be taking a different flight path back to MSP and would try to get out of some of the turbulence that had been experienced on the way down to SAN. She described the flight deck crew as “friendly, respectful, and informative.”

After the passengers boarded, she did her demo and took her jumpseat. After they took off it was turbulent and she sat on her jumpseat for a while. She heard the “double ding” and they did a cabin service and then she picked up trash. After the service Bonnie called and she went forward and became a “blocker” for a cockpit crewmember (she did not remember which one) to use the lavatory. After she completed the blocker duties she returned to the back and picked up trash.

There was “nothing eventful” about the flight. At around 8 PM CDT she thought that the flight was taking longer than expected and she had not noticed an initial descent. There were some questions about connecting flights but the passengers did not seem to be “really upset.” She spoke to Barb and asked her if she thought it was taking longer and “we decided to call the cockpit.” Barb called the cockpit and had a short conversation with the crew. She believed that the cockpit answered Barb’s call quickly. When Barb got off the interphone, she told her that she was not sure when they were going to land. She indicated that she had an odd response from the pilot and he had not given her the time.

The cockpit made a PA announcement that they were “waiting for clearance for landing.” The captain made a later PA to prepare for landing, although she stated that this PA may have come at the same time as the prepare-for-landing announcement. After they got to the gate, there was a PA announcement for passengers to remain seated and most passengers sat down. She walked into the cabin and started to close the overhead bins that had been opened. She reassured passengers about connecting flights and passengers were eventually allowed to deplane. She and Barb walked off with a family who were the last people off the airplane. She saw 2 or 3 people in the galley and saw the captain sitting in his cockpit seat.

She believed that cockpit/cabin communications have improved since 9/11/2001. Cockpit crews reiterate the need for cabin crew to contact them if they “see or hear anything.” As a general procedure flight attendants “always have access” to the cockpit crew and are not inhibited in their communication. Communications are always discussed in the pre-flight briefing. She said that some leads prefer to have flight attendants contact the lead before contacting the cockpit and they would specify that in a pre-departure briefing. On flight 188, the preflight briefing from the flight crew was relayed to her by Bonnie and Bonnie did not have any special communication requests.

She said that double chimes indicated sterile cockpit was active. Before the merger sterile cockpit was indicated by extinguishing the green light.

She rarely flies as “lead” and usually works in the aft cabin. Because she flies in the “back” she is not likely to make a lot of calls to the cockpit. She flies a mix of airplanes and had flown the Airbus infrequently lately.

She may have flown previously with the first officer a while ago and the captain looked familiar. She had brief contact with the F/O but he seemed friendly. He seemed alert, as evidenced by his quick responses and the absence of any evidence of slurred speech. The Captain seemed very friendly and answered her questions. He seemed respectful through his choice of words and tone of voice. He also seemed alert. When she gave him coffee he had his hand out, his eyes were bright, and he answered immediately. She thought that cockpit crew’s announcement on flight 188 sounded “fine” and “regular.” She did not see the Captain and F/O interact.

She was not aware of any formal or informal procedures to check on pilots during flight.

2. Communication System

The A-320 Call system is described in the NWAA A320 Aircraft Operating Manual (See Attachment 2). According to the manual, when a call is placed from the cockpit to the flight attendants: a pair of red lights illuminate at the selected flight attendant overhead area call panel, the word “CAPTAIN CALL” illuminates in red on the flight attendant indicating panel, and a high/low chime sounds from the cabin speaker for that station area.

When a flight attendant calls the cockpit a buzzer sounds in the cockpit and an amber flashing “ATT” illuminates in the CAB key on all three ACPs. (The buzzer is inhibited on takeoff below 1,500 feet and on approach below 800 feet and only the “ATT” light flashes).

Nora Marshall
Chief, Human Performance and Survival Factors Division
National Transportation Safety Board