



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

January 3, 2018

Attachment 4 – Preceding Flight Crew Interview Summaries

OPERATIONAL FACTORS/HUMAN PERFORMANCE

DCA17IA148

Interviewee: Matthew R. McGath

Date: July 24, 2017

Time: 1103 EDT¹

Via Teleconference: Captain Shawn Etcher, Dr. Sathya Silva – NTSB; Captain Robert Hendrickson – Federal Aviation Administration (FAA); Missy Rudin-Brown - Transportation Safety Board of Canada; First Officer McGath –First Officer (Delta Air Lines flight 521); Mr. Gordon Rose - Airline Pilots Association (ALPA)

First Officer McGath was represented by Mr. Gordon Rose – Senior Labor Relations Counsel – Delta Air Lines Pilots Association (ALPA)

During the interview, First Officer McGath stated the following:

He was a first officer on the Boeing 737 for Delta Air Lines.

He had a Commercial, Airline Transport Pilot, Certificated Flight Instructor – Instrument with ratings for multiengine. He also had a current first-class FAA medical certificate with a limitation of corrective lenses for reading. He was not wearing glasses the night of the event as they are only required for reading in low light.

He flew for 20 years in the Marine Corps and 2 years at Delta Air Lines. He could not recall how much total time he holds.

When asked how they obtained the ATIS² he stated that it was obtained via ACARS³, as a digital ATIS, and printed it. Typically, when within 3 hours of the destination he will start obtaining the ATIS in order to determine any change in the weather.

When asked if the ACARS ATIS had NOTAM⁴ information when printed, he stated that they are provided NOTAMs, which were printed out, prior to departure. The company was working on transitioning flight plans from paper to iPad. The night of the event they were using their dispatch release for the NOTAMs. He further stated that they did know that runway 28L was closed. Although not certain when he read the NOTAM for that but thought he read it prior to descent into San Francisco. He furtherer stated that he did not know the reason the runway was closed was for construction.

When asked what approach they were assigned, he stated that initially they were told by the approach controller to expect the FMS⁵ Bridge Visual approach; however, the ATIS had list the Quiet Bridge Visual Approach. He assumed that approach control must have been used to that as they were not issued the Quiet Bridge but the FMS Bridge Visual approach. Shortly after, the checked on with the controller there were issued vectors. He classified the descent and approach

¹ Eastern Daylight Time

² Automated Terminal Information System

³ Aircraft Communication and Addressing Report System

⁴ Notice to Airmen

⁵ Flight Management System

as not a normal descent into San Francisco as they were vectored to the north, off of the approach corridor, then issued a 180-degree turn back toward the course. He further clarified that it was “a huge S-turn” to get onto final. He concluded that the S-turn was for vectoring and for their sequence behind the traffic to follow. Because of vectoring, he felt they had less time to assess the final approach. The Bridge Visual in general, gives crews less time to get established on final approach than an ILS ⁶for example.

He further described the workload, when compared to a normal descent was busy but he did not feel it overly burdened him with duties.

The captain briefed the Bridge Visual approach while they were still at or near cruise altitude. Delta Air Lines does provide flight crews with briefing guides they can go through when setting up for an approach. The guides have step by step procedures for every approach they could fly. He could not recall the exact briefing but stated that they complied with the checklist and made sure everything was completed. He further provided that at Delta, they use the acronym NATS⁷ when briefing an approach.

When asked to describe what threats they discussed, he stated he could not recall what they specifically briefed but that it was a long day and the first time he and the captain had flown together. However, he stated that for him personally they may have briefed that there may have been fatigue but it was not a factor for the approach. Their day had consisted of a flight from Atlanta to Birmingham back to Atlanta and then to San Francisco.

He had been with Delta for 2 years and been into San Francisco approximately 3 or 4 times. He had also flown into San Francisco during his time with the Marine Corp about 7 to 8 times. His times he had flown into San Francisco while flying with Delta was done at night and the time with the Marine Corp was done during daylight hours.

The night of the incident was not as busy as normal going to San Francisco. The frequency was “quieter than normal” and he didn’t recall “lots of talk” on the radio. Normally going into San Francisco, they are departing the 1’s and landing the 28’s. The night of the event he felt San Francisco was only a single runway configuration, which was runway 28R.

When asked if the approach was flown by hand or was coupled to the autopilot, he stated that the approach was coupled; however, he could not recall when the captain disconnected the autopilot but thought that it was after they were on final. Typically, they disconnect the autopilot at 1000 feet.

He stated he was pilot monitoring during the flight.

When asked if there was any guidance they used to back up the visual approach, he stated that there was nothing to back the approach up with but he had put the ILS in as a backup. Then they received the FMS “Nav Tuned Disagree” message. The ILS frequency did provide them with

⁶ Instrument Landing System

⁷ NOTAMS, Arrival and approach, Terrain Taxi routes and Threats, Special company pages for the airport

glide path guidance; however, they followed the LNAV⁸ on the FMS Bridge Visual to runway 28R, allowing them to assess the landing.

He could not recall but felt there were no crosswinds or not much so that helped negate any confusion due to crosswind. There was preconceived notion of landing on runway 28R, which was the outboard runway. While landing there were “really bright white lights” on the left side of runway 28R and a set of lights to the right side of runway 28R.

When asked to describe the lights he saw to the left of the runway, he stated that they were bright white lights, similar to the kind they have during construction. He further stated that there were similar lights in Atlanta at the time so he knew they were construction lights. He could not recall being blinded by the lights in Atlanta except on the ground. You could see the ones in Atlanta and if you looked toward the area where they were, he could see them. In Atlanta, the landing runways were so far removed from the construction area the lights were not a factor in the air. He stated that he had “never been blinded by them in the air.”

When asked if he thought the construction lights at SFO were pointed up towards the approach path or towards the ground, he stated that he could not assess where they were pointed; however, when he looked in the direction of the lights he could not see anything other than those white lights. He further clarified that they had spent 5 hours in a dark cockpit but stated that they were just “really bright.” The assessment they made about the landing runway was within a minute of touchdown while on final approach.

The lights to the right of runway 28R were “blue lights”. He thought it was a taxiway; however, he did not expect aircraft to be on Taxiway C. He knew that the north side of the airport was used more by civil aviation. He did not expect to see any aircraft on that side (right side) of the runway. He did not see any strobe lights but observed lights that he could only classify as “not normal.” He “could not register what [the lights] were supposed to be.”

When asked what provided them with the feeling that they were lined up with the correct runway, he stated that because they stayed on the FMS approach the entire time gave him a comfortable feeling; however, when he saw the 28R painted on the runway, he knew for certain that they were lined up with the correct runway. He could not recall what the altitude, he first saw the 28R markings, but that that it may be at the minimums altitude. He further stated that it was probably 100 - 200 feet. He stated that during any night approach a pilot would constantly be analyzing their position. He further stated that this was a “normal process” which was why they “always shoot the ILS.”

When he called and talked to the controller he suggested that they use the ILS approach; however, the tower controller informed him that approach selection were up to the approach controller not the tower controller. He also felt that if both runways had been illuminated it would have helped. He felt that the discussion with the tower controller was very well received.

Once they rolled out on final they discussed that the sight picture was not what they expected. The pilot flying continued flying “the needles” and he dialed up the ILS frequency; however,

⁸ Lateral Navigation

they received the “Nav Tune Disagree” message which was unusual. Their normal procedures were to fly visual approaches (that were not FMS visual approaches) backed up to the ILS; however, since they had a FMS visual in the computer it would not allow them to use the ILS information other than the glidepath. They saw just the one runway and they continued assessing the lighting situation during the approach. He could not recall for certain, but thought the captain observed the aircraft on the taxiway to the right of the runway first. Then, he looked over and saw 4 aircraft on the taxiway, prior to their touchdown on runway 28R. The touchdown and taxi were uneventful. As soon as he heard the discussion with Air Canada asking if the runway was clear he thought that that crew was having the same challenges they had just encountered. Subsequently, he heard someone say, “he’s lined up on the taxiway.” He further stated that the statement was not directed to anyone or any flight specifically. The only person he heard direct a go around was the tower controller; however, by that time that Air Canada flight was in the nose up position and appeared to already be in the go around attitude.

He was listening to tower the entire time as they had been instructed and they had to cross the other runway. Although he could not recall which taxiway they exited, he thought it was either taxiway Kilo or Delta. They were listening and monitoring the tower frequency for the entire revolution. They still had to cross runway 28L. It was not until after someone stated that the airplane “flew right over us,” that they switched over to the ground frequency and continued the taxi.

When asked if he recalled seeing an illuminated X on runway 28L, he stated that he had not. He further stated that he could not see anything over on runway 28L. He was not sure an illuminated X would have helped, as he would not have landed “anywhere near the bright lights.”

He saw Taxiway C as though it was a taxiway but he had a momentary question of if it was a runway. It was a transient thought as they expected to land on the outboard runway. He did not expect to see the outboard taxiway illuminated. He did remember seeing the “blue lights” on the taxiway. He further provided that flying at night, its “just a big jumble of lights” until lined up on final. There were multiple sets of lights that he observed on the taxiway. He had observed the red and green position lights from the airplanes that were on taxiway C and classified these as part of the multiple sets of lights he saw on the taxiway. He stated that if they had flown the ILS procedure they would have had a much longer time to assess what they were looking at on final.

When asked if their procedures allowed them to switch from an FMS to an ILS, he stated that he was sure it was allowed. However, switching from an FMS to an ILS would have required him, as the pilot monitoring, to be heads down, inside the cockpit and would have been a lot of work for him as they were less than 1,000 feet altitude. He estimated it would have taken a critical 10 seconds to switch from the FMS approach to the ILS approach in the FMS. They had not briefed doing that and it was a critical time. If they felt unsafe, at any time, they could have gone around. He thought about switching to the ILS but he felt it was not the safe thing to do at that time.

When asked if when they observed the runway 28R painted markings was when they confirmed that were landing on the correct runway, he stated that it was the final confirmation; however, they had already confirmed they were landing on the correct runway prior to that point. It was just one more confirmation to them.

When asked if he could recall seeing any beacon lights illuminated on taxiway C, he stated that he could not recall seeing them.

When asked if there was anything he could think of that would help mitigate the possible confusion between the two surfaces at night, he stated that he was aware of noise abatement issues in most major cities. Visual approaches at night are not comfortable things to do, if they would have lined up for the ILS that would have made him more comfortable. The construction lights could have been pointing down the other direction on the runway but not towards the approach corridor and that would have helped. He further provided that having both runways illuminated would assist pilots in maintaining situational awareness and identifying the correct runway.

The interview concluded at 1155 EDT

Interviewee: Captain Alan Leon Bedsole

Date: July 24, 2017

Time: 1300 EDT

Via Teleconference: Captain Shawn Etcher, Dr. Sathya Silva – NTSB; Missy Rudin-Brown - Transportation Safety Board of Canada; Captain Bedsole –Captain (Delta Air Lines flight 521); Mr. Gordon Rose - ALPA

Captain Bedsole was represented by Mr. Gordon Rose – Senior Labor Relations Counsel – Delta Airline Pilots Association (ALPA)

During the interview, Mr. Bedsole stated the following:

His current title was captain on the B737 at Delta Air Lines (DAL). He holds an Airline Transport Pilot certificate with type ratings in the DC-9, B737-200, B737-300 G, B737-700/800/900, B757, B767-ER, MD11, Lear 35, Saberliner 40. He currently has approximately 15,000 hours total flight time, 1,500 hours in the B737-800/900 series aircraft with 320 of which were as captain. He also flew C-130, C-27, T-37, and T-38's in the military.

He holds a Class I medical certificate with a limitation to wear corrective lenses. The date of his last medical was March 2017. He was not wearing glasses during the flight as they are only required for reading. He used them for the approach briefing.

On the night of the event, the first officer got the ATIS through ACARS. It had a few NOTAM's but he could not recall what they were. It was a clear night with unlimited visibility. He knew about the runway closures at SFO because he saw them on their flight plan.

He, as pilot flying, briefed the approach. He followed the briefing card and the NATS briefing volume 1 approach navigation selection guide. They were flying the FMS Bridge Visual

approach and they used the RNAV⁹ guide for the approach briefing even though they were doing the visual approach.

They had dialed in the ILS frequency. It gave them DME¹⁰ and glideslope information without any lateral guidance. On this aircraft, when flying an RNAV visual approach, they can't really get any precision or backup for the approach.

He did not recall discussing the runway closure. They had mentioned it.

Approach control was very busy that day. They vectored the flight downwind past the airport, then back to the east. They intercepted the final approach around TRDOW fix. Approach control was busy getting everyone vectored in, but he didn't have any problems with radio congestion per se.

He has flown into SFO 2-3 times during the day, and once at night in the previous 6 months. The night of the event was the night arrival. The flight crew had talked about doing an instrument procedure into SFO since they were coming in at night. He would typically do that when coming into a new airport at night. When they heard the ATIS was reporting using the FMS Bridge Visual, they elected to continue with that approach.

In the FMS, the approach was labeled as the RNAV 28R and the crew had to manually verify the points in the FMS with the ones in the FMS bridge visual to verify it was the same approach. The autopilot was on until they had lined up with the runway (until he saw the runway), then he hand flew the approach. He was also using a heads-up device (HUD). DAL requires them to use the autopilot for this specific approach. He found that the HUD does help him hand-fly.

They never switched lateral guidance to the ILS. To do that would have required them to change the approach in the FMS.

He had the runway environment in sight way out on the approach and it was no problem identifying the runway environment. They had the runway lighting for runway 28R on bright. He felt that if ATC¹¹ had had the sequence flashers turned on it would have been easier to identify the landing runway.

He believed there were 5 to 6 aircraft holding on taxiway Charlie with their beacons on, but he could not see the aircraft; just the lights. All the lights were straight in a row; all the aircraft lights lining up like that gave the illusion (to the crew) that they (the crew) were lining up on the left runway (28L) as they were making the turn from JANYY fix. When they questioned what runway that was, they looked at the approach guidance on the FMS to make sure they were aligned with the correct runway. He had the autopilot engaged until the F101D waypoint and used the HUD to guide him to 28R.

⁹ Area Navigation

¹⁰ Distant Measuring Equipment

¹¹ Air Traffic Control

He did not recall the color of the lights on the taxiway. There was less than one minute until touchdown and he was not paying attention to the taxiway. The lights on the left looked like portable construction lights. They were portable lights on 28L. The lights were noticeable but did not impact his night vision. He did not recall seeing a lit X on the closed runway.

He was positive that he was aligned with 28R after the last fix due to him seeing the runway lights, which occurred around 300 feet agl. This was also when he saw the 28R painted on the pavement.

The HUD included a guidance cue and an aircraft depiction. The goal was to keep the guidance cue within the aircraft cue. On the left of the display, there were acceleration cues with a carrot to give feedback on power and power trend. The goal was to keep the acceleration carrot lined up with the aircraft cue. To the left of the acceleration cues was the airspeed band which also contains information on the approach speed. The altitude display was on the right side of the display along with vertical speed information. There was a lot of information on the HUD and it also had different modes. He does not recall any of the modes having a runway overlay feature. When they get close to touchdown, the HUD gave more cues and glide path information.

The lights he saw on the taxiway gave the impression that the surface could have been a runway. He can see how people could confuse the two surfaces if they weren't backed up with lateral guidance. The lights were in a straight line and it could have been a centerline.

The first officer and captain discussed whether they were lined up for the correct runway for 5-10 seconds. He found the lights on the taxiway to be misleading.

The RNAV guidance was very good and precise. It is DAL procedure to use RNAV approach procedures. Even if they were flying a visual approach, DAL required them to use something to backup the visual.

When asked if he thought the tower was busy, he stated that he felt tower was "fairly normal." The tower was not aware of the improper line up until a flight departing for Singapore (or the #1 for the runway) said something on the radio. He heard Air Canada ask if the runway was clear. He believed the flight that was number 1 for takeoff said something like "he's lined up to fly right over us." It was at that point that tower told Air Canada to go around. He, as captain, was very busy taxiing the airplane at that time, so he did not see the Air Canada flight, but he could hear the conversations.

He recommended flying the ILS procedure when there was runway construction to avoid an incident like this again.

The interview concluded at 1346 EDT.



Internal Memorandum

Date: 7/13/2017

To: Captain Chris Frederick, Regional Director & Chief Pilot – ATL CPO

From: Captain Alan Bedsole

Subject: II17-153 FLT SAFETY/NTSB – LDG SFO: DAL521 07-JUL-17 B-737-900ER ATL-SFO N869DN (3869)
CAP: BEDSOLE, A.L.; FO: MCGATH, M.R.

This statement is provided at the request of the Chief Pilot's Office.

I, Captain Alan Bedsole was the pilot flying Delta 521 into SFO the night of July 7th 2017.

There was a lot of traffic that night and we were vectored off the DYAMD3 arrival and flew past the SFO airport, then given a 180 degree turn to the East, then a turn near TRDOW to intercept the FMS Bridge Visual 28R. The weather was VFR and RWY 28L was under construction and NOTAM'd closed. Aircraft were lined up on taxiway C for takeoff and this caused me to question if I was lining up on the correct runway.

The last time I had flown the bridge visual was several months prior and it was in the daytime. I could see what I thought were two sets of parallel runway lights. Aircraft on taxiway C were stopped and had their taxi lights off which helped to create this miss conception that taxiway C was RWY 28R. Had the runway sequenced flashing lights been on it would have defined the landing runway or had we flown the ILS we would have had precision course guidance which would have eliminated the illusion that we were not lined up on 28R.

Because we were flying a visual approach and not a precision approach, this also caused me to question if I was lined up on 28R. We confirmed that we were lined up with 28R, cross checking it with the LNAV on final. I was preparing to go-around if I could not confirm which runway I was landing on. It was confirmed prior to crossing the threshold when I saw 28R painted on the runway.

As we were exiting the runway I heard the Air Canada flight ask if the runway was clear. Tower replied the runway is yours. Then I heard someone say "He is lined up on the taxiway." Then I heard tower issue a go-around to Air Canada.

I acknowledge release of this statement to Delta Flight Safety and the National Transportation Safety Board (NTSB).

Regards,

Captain Alan Bedsole
Employee [REDACTED]
(Signature on file)



Internal Memorandum

Date: 7/12/2017

To: Captain Chris Frederick, Regional Director & Chief Pilot – ATL CPO

From: First Officer Matthew R. McGath

Subject: II17-153 FLT SAFETY/NTSB – LDG SFO: DAL521 07-JUL-17 B-737-900ER ATL-SFO N869DN (3869)
CAP: BEDSOLE, A.L.; FO: MCGATH, M.R.

This statement is provided at the request of the Chief Pilot's Office.

I, First Officer Matthew R. McGath, was the Pilot Monitoring (PM) on flight 521 from Atlanta to San Francisco on July 7, 2017.

Enroute was uneventful and we prepared for the RNAV Bridge Visual approach to Rwy 28R. I do not recall any ATC irregularities. We were vectored extensively by approach but nothing unsafe. From previous experience flying into SFO, I expected to land on the outboard runway, Rwy 28R.

Once we turned on final, there was some confusion. We were lined up on a runway, to the left was an obvious construction site and to the right was what appeared to be a taxiway. However, the lighting was different and I did not know until after landing that was because there were aircraft lined up on it waiting to takeoff.

We had been flying for hours at night and the construction lights were so bright we could not determine the location of the inboard runway, 28L. So I initially thought the construction was on a taxiway and we might be lined up on Rwy 28L and the taxiway on the right could be Rwy 28R. We tuned the ILS frequency for RWY 28R to assist in identification but with the RNAV approach programmed in the FMS, the ILS only provided Glideslope information.

The Pilot Flying (PF) continued to fly the LNAV guidance which was guiding him to Rwy 28R. And I, as the PM, confirmed that he was flying the LNAV guidance while I continued to identify the runway. The PF and I had a discussion on final to determine that we were indeed lined up on the correct runway. I stated to the PF that I believed we were lined up on the correct runway based on the LNAV guidance and the airport lighting, and he concurred. Once we were on short final and could see the "28R" markings on the runway, I stated we were on the correct runway and it is clear.

At no time did we line up on a taxiway or the wrong runway. The PF stayed on the LNAV guidance all the way to the runway which mitigated the confusion we experienced from the lighting and non-normal airport configuration at SFO that night.

After we landed and cleared the runway, I heard a radio communication between the aircraft behind us and the tower controller. I didn't hear the specific question from the aircraft, but I heard the tower state the runway was clear and all his. I assumed he had similar confusion to ours. I then heard someone else state he is lined up on the taxiway. Shortly after that, I heard the tower direct Air Canada to go around. By that time, our aircraft had turned enough, I could see an aircraft on short final lined up on the outboard taxiway initiating a go around.

The Captain and I discussed the situation and decided we needed to let the tower know about our experience on final. Since the tower was busy at that point, I decided to call them after we blocked in and things had settled down. I got the phone number from airfield ops and called the tower supervisor probably 40-50 mins after the incident. I told him everything that I stated in my first paragraph above and recommended they either fly ILS approaches to RWY 28R or turn on the lights for RWY 28L to assist in runway identification.

I acknowledge release of this statement to Delta Flight Safety and the National Transportation Safety Board (NTSB).

Regards,

First Officer Matthew R. McGath
Employee # [REDACTED]
(Signature on file)