



NATIONAL TRANSPORTATION SAFETY BOARD

**Office of Aviation Safety
Washington, D.C. 20594**

December 30, 2017

Attachment 1: Operations/Human Performance Interview Summaries

OPERATIONAL FACTORS

DCA17FA109

Contents

A. INTERVIEW SUMMARIES	3
1.1 Family/Personal Interviews	3
1.2 Interviewees: Heather Alvarado and Windy Alvarado– Sisters of Captain; David Mixwiggan and Richard Edwards – Friends of the Captain; Joanne Sawyer – Mother of the Captain	3
1.3 Interviewees: Vang Ho and Thanh Ho – Brothers of Anh Ho, First Officer	6
1.4 Interviewee: Kemberly Morgan.....	9
1.5 Interviewee: Mike Anthony Rodriguez.....	11
1.6 Interviewee: Derek Mack – Friend of First Officer	13
1.7 Interviewee: Robert Arnold – Friend of First Officer.....	16
2.1 Operator Interviews	19
2.2 Interviewee: Matthew Mattison – ACC Director of Training (initial interview)	19
2.3 Interviewee: Matthew Mattison – ACC Director of Training (follow-up interview).	21
2.3 Interviewee: Michael Roberts – ACC Ground Instructor	22
2.4 Interviewee: Luke McGrath – ACC Chief Pilot	23
2.5 Interviewee: Kara Kiernan and Darren Tham – ACC Flight Followers	26
2.6 Interviewee: Duane Stroik – ACC Director of Maintenance	27
2.7 Interviewee: Steve Altnau – ACC President and Director of Operations	29
2.8 Interviewee: Griffin Douglas Shafer – Former FO for Captain.....	31
3.1 FAA Interviews	34
3.2 Interviewees: Paul Sweeney: Front Line Manager; Rexford White: ASI Ops; Timothy Spreen: ASI MX (initial interview).....	34
3.3 Interviewee: Rexford (Rex) White, FAA Principal Operations Inspector for ACC (follow-up interview)	36
3.4 Interviewee: Paul J. Sweeney, Front Line Manager for ACC (follow-up interview)	39
4.0 Customer Interviews.....	41
4.1 Interviewee: Vanessa Ferrell - UPS WV Air Supervisor.....	41
5.0 Eyewitness Interview	
5.1 Interviewee: Al Emch – Local Attorney and Pilot	41

A. INTERVIEW SUMMARIES

1.1 Family/Personal Interviews

1.2 Interviewees: Heather Alvarado and Windy Alvarado– Sisters of Captain; David Mixwiggan and Richard Edwards – Friends of the Captain; Joanne Sawyer – Mother of the Captain

Represented by: (waived)

Date: May 7, 2017

Location: Conference Room Salon A: Holiday Inn Express, Charleston, WV

Time: 1430 EDT

Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Ms. H. Alvarado Ms. W. Alvarado Mr Mixwiggan Mr. Edwards and Mrs. Sawyer stated the following:

They also had a brother Shawn Alvarado flying in.

Jonathan was a middle child. He started at ACC 2 years ago in May. Mr. Edwards and Mr. Mixwiggan had been friends with him since January 2001 when they met at Georgia Aviation Technical College at EZM. Jonathan was doing his helicopter training there. Before Georgia, Jonathan had been in Las Vegas. He had gotten a B.S. in Safety with a minor in Aviation Administration from Embry Riddle Aeronautical University Daytona though he was in Warner Robbins at the time. This was around 2004-2005.

He did not have any other jobs outside of flying. He started flying in Tulsa at Spartan, which is where he did his private pilot training. He did his instrument training in Las Vegas. In Georgia, he did commercial training and commercial helicopter. He was a ferry pilot for southeastern sales in 2005. They delivered airplanes domestically and internationally. He worked there for a few years and was based at an airport north of Albany, Georgia. He sometimes flew to south America. He then ferried for a “different guy” and delivered planes to Germany, Denmark, and England. With the recession, there were not as many flights so he also got a side job at Walmart. He then moved to Texas, which is where his legal residence is now.

He got a job flight instructing in Seminole, TX. He didn’t like how the company was charging the students so he left that job. He then was flying with GTA in atlanta flying cargo for atleast a year. He flew a bonanza out of Austin. He almost took a job in New Braunfels, but had trouble with the simulator sessions. He then moved to Alaska to fly as a bush pilot. He worked with Illiana Air, Juneau air, and Grant (in Amonik, AK) flying the Cessna 207 and Bonanza and flying passengers, mail, and freight. His friend Rich’s friend recommended him for the job at ACC.

He liked the freedom of flying. He picked up ferry flights internationally like multiengine in Portugal and Bolivia. He disliked shortcuts that airports make, shortcuts in regulation and maintenance. He once refused a flight in Goose Bay because they didn’t have required radio documentation. He voiced concerns about younger and younger pilots coming in with only 300 hours.

He was proud to show off his plane. He was looking forward to a pay raise. He liked the 3 weeks off, 1 week off schedule. He liked flying the older turbo prop aircraft and called it a "pilot's plane." He was proud of any plane he was flying.

His friend, Rich, had seen him one month ago. They communicated via phone calls since then. He was thinking about omni. He recently bought a motorcycle. Last time they saw each other they were reminiscing and Rich had gotten a tour.

He had a girlfriend, Kem, whom he had dinner with on Thursday night. They were in the process of reconciling.

He had another friend who was Vicky's fiancé. They could not remember his name.

He made friends easily. He did not fly outside of work.

In the ferry pilot business, he had had small incidents such as icing over Goose Bay, radio failures, complete electrical failures.

He did not have any children. He had a residence in Charleston. He had talked about moving to Texas.

His mom texted with him. He flew at night and slept most of the day. He was required to use a CPAP machine for snoring. On Thursday, he cooked for Kem. Louisville had a place for sleeping (like a crew room). The pilots no longer loaded and unloaded the aircraft. He was a night person and didn't need much sleep. He was usually out and about. He was an avid reader. He and Anh sometimes read to each other during flights. He was paid well at ACC. He was happier with the job as he felt like an adult with benefits and pay.

He got a Y membership in December. He walked a lot. He wore prescription glasses only when flying. He did not have hearing issues. He drank alcohol sometimes as beer with wings. Over Christmas they only saw him drink one beer the entire visit. He bought bottles and they were not opened. 15-20 years ago, he drank more, about 3-4 drinks per night.

He did not smoke nor drink coffee. The whole family didn't drink coffee. He was an avid gun fan and liked shooting. He did not use illicit drugs and had no tolerance for people who did illicit drugs.

He was often profiled for his appearance.

He would have had snacks with him in flight.

His regular routine was flying 5 nights per week. If he asked for time off, the company gave it to him.

He talked about his FO sometimes. She used to be a flight attendant for Republic. He spoke highly of her. He was bringing her along. Her IFR skills and radios were good.

He has 3 facebook accounts. One for his pilot friends, one for his friends, and one that was not very active and had only 16 friends. The main account had a sunset as the profile picture. Another

had the puppy, which is a pitbull, Lucious, as his profile picture. In two of the accounts he was friends with himself. The one that was not as active had troublemaker listed as his job.

He had a go pro and took videos.

The AME had trouble last time getting data off of the chip of the CPAP.

His cell phone provider was Verizon and he was on his mother's cell phone plan.

The interview ended at 1600 EDT.

1.3 Interviewees: Vang Ho and Thanh Ho – Brothers of Anh Ho, First Officer
Represented by: (waived)
Date: May 7, 2017
Location: Conference Room Salon A: Holiday Inn Express, Charleston, WV
Time: 1605 EDT
Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Mr V. Ho and Mr. T. Ho stated the following:

Anh had stayed with Thanh in New Hampshire while she was flight training. This was before Christmas. She had mentioned in the Christmas time that they were flying at max loading during the Christmas period.

She flew at Nashua, NH with a flight school and was doing her instrument rating. They were unsure whether she did private there also. She was the top of her class.

Prior to that, she had been a flight attendant for Republic Airlines. She loved to travel, loved her job as a flight attendant and wanted to fly. She was pursuing a dream. She always described the flights as “too short” no longer how long they were. She had taken her ATP written exam before she began flying. She had written in a note to herself in 2016 when she was accepted into ACC.

She’s one of those people where if she wanted it, she’ll make it happen. She was always studying. Her dream was to fly a big airplane but she needed hours. When she was 4 weeks out from her CFI check ride, she got the offer from ACC. They only gave her a week or two to decide so she had to choose between the job and getting the CFI.

During training she told Vang that she really loved it. During her background check her fingerprints had a problem so she was depressed about that. It was around Thanksgiving and she had stayed in Alabama at that time.

During training, she said that there were “so many things going on” and that she was forgetting things. She was the top pick for her class. She had over 300 hours. She told Vang everything about flying. She was always excited.

She was the youngest of 11 total kids. Her father had passed 5 years prior and her mother lived in Alabama.

She never complained about flying. At the beginning she had trouble adjusting to the schedule, but she stuck with it.

The day prior to the accident she had talked to Vang for 1 hour and had also talked to him the day before that. The night before, they had gotten off the phone at 6:38pm. She eats very healthy food and organic food. The night before the accident she was cooking dinner for work. She also called again later to talk to her mother. Her spirits were really excited which was normal. He had never seen her depressed.

Alicia and Virginia were her best friends in high school. She did not want to get married and have kids. She had seen so many neglectful parents. She would adopt. She had never brought any boys

home. During phone calls she usually mentioned that friends were coming over or that she was going out to eat.

She had told Vang that her captain had broken up with his girlfriend 2-3 months ago. She said that he was always stressed and tired. He asked Anh to take over the aircraft duties. She talked about how they have a rest room in Louisville but he never wants to sleep and then when they have to fly, he says he's tired. This lasted about a week, and then she stopped talking to Vang about it. He didn't know if it continued or not.

She also mentioned a story that he told her about one month ago. During the flight, he had pointed to something on the ground that she couldn't see. He took control of the aircraft from her and dropped 1000 feet. He recovered it again, but the tower had asked about the altitude. She said the captain had told him it was turbulence.

She mentioned another story where the landing gear light showed that the landing gear wouldn't retract on take off. The captain was flying and once they got in the air, they called dispatch who told them to return to the airport. During the approach, he turned the wrong way toward terrain. She corrected him and he turned the correct way. This was case that had shaken her.

She also mentioned to Vang that there were times when he would say things like "I flew in Alaska, I got this" and she would look over and see a mountain "right there."

At some point earlier, ACC used to have their pilot and co-pilot unload and load the airplanes. They no longer did that.

During the conversation Vang had with her on Thursday, she had just woken up. They talked about the house she was going to co-sign with Vang. She typically slept until 6pm and went to bed right after work. When she was at home, she was normally in her room at 9pm. She ate well, slept well, and exercised well. She was doing the "Insanity" workout. When they went to her apartment earlier the day of the interview, there was a shirt that was still wet with sweat. When she was with her brothers, she normally did 1 hour of exercise. She normally got 7-8 hours of sleep or more. She would go to bed by 9-10pm and wake up at 8am when she was at home with them. She was not really a night person unless she was studying.

The conversation she had 2 days before the accident with Vang was when he was looking at a house.

She did not take naps normally, but she did do relaxing things.

The flight attendant job didn't pay much. She did have loans, but she had mentioned last week that she was almost done with the loans. She was excited about an upcoming raise on May 19th. He remembered that date because he was waiting for her raise to submit to the bank for his mortgage.

She wore glasses or contacts. She definitely had no color vision issues as the two brothers had color vision problems and always asked her what color things were.

They were not aware of any prescriptions she was taking. She did take vitamins. She did drink alcohol when she was younger in college, however they don't think she's consumed alcohol in 10 years. She did not smoke nor take illicit drugs. She drank tea and eats veggies.

Her cell phone carrier was AT&T. She was on a plan with Thanh. She was not on social media. She did have a facebook account and the picture was of her snowboarding.

The week prior to the accident, she and Vang spoke almost every day as her mom had had back pain and she was checking in on her.

The interview ended at 18:55 EDT.

1.4 Interviewee: Kemberly Morgan

Represented by: (waived)

Date: May 8, 2017

Location: Conference Room Salon A: Holiday Inn Express, Charleston, WV

Time: 1206 EDT

Present: Sathya Silva, Aaron McCarter – NTSB; Alison Campbell – AAIB

During the interview, Ms. Morgan stated the following:

She and the accident captain, Jonathan Alvarado, met a couple of years ago. He had moved to Savannah for a while, she believes he was still with Air Cargo Carriers at that time. He came back to Charleston to be with her.

Flying was his only job. His hobbies included volleyball, walking, sleeping, cooking and he had just bought a motorcycle and was waiting on insurance to ride it.

She saw him on Thursday evening. He made dinner which was scallops and clams at his place. She went over around 7 to 7:30 pm that day. They watched the movie "Happy Endings." He had his alarm set for 9pm. He rested/slept a lot. Volleyball was his exercise. His sleep was inconsistent. If he got back from work at 6am, he would go to sleep anywhere between 9 and 11am. The CPAP machine required him to sleep at least 6 hours. She didn't think he needed that much sleep but liked it. He never seemed unenergetic. If anything he slept too much.

When they met Thursday, nothing seemed abnormal.

He loved flying. She had never flown with him. He didn't say anything about the company. He talked sometimes about commercial versus air carrier. He was happy with the company. He also did not complain about the night schedule.

He had nothing but good things to say about the first officer. He had said that she was a very good pilot. Once, he sent Kem a facebook message of a video of Anh's landing. Anh was lovely when Kem met her. Anh and Jonathan would take turns flying.

Jonathan did not fly outside of work. He didn't talk about flying stories. She thought that he had come over to her place at some point three days before the accident. Jonathan ate well. He was overweight but working on it. They had met at a bar. He was "wicked" smart and they had hit it off. There were yellow leaves on the trees when they meant so she estimates it to be in October about 2 years ago. She described him as very trusting and a good person. When he had gone to Savannah, they had talked but she had never gone to visit him. He had been there for 6 months. They had not talked about defining the relationship as she felt non-committal. They had had "spats" before but no real issues. The spats that they did have were about jealousy as she had began seeing an ex boyfriend of hers. During the spats they didn't talk to each other, for 2 days at most. Usually one of them opened up and contacted the other. When asked if they were exclusive, she said that they were exclusive before her ex who was a 12 year boyfriend came back into the picture about 5 months ago. She was honest with Jonathan and they talked about it openly. Jonathan was a "solid" guy.

Jonathan had not had any major life changes. He did not have any illnesses and tried to play volleyball sometimes as much as twice a week.

Jared Chapman was his personal doctor. She had recommended him.

Jonathan did not wear glasses and did not have hearing issues. He took a prescription medicine for his heart. On weekends he would drink (tequila – but she never paid attention to how many). He would never drink before work and she’s never seen him drunk even when he does drink. He did not smoke, drink coffee (only diet coke), take nutritional supplements that she knows of, or did illicit drugs.

His working pattern was Monday to Friday nights with Saturday and Sunday night off.

He was “so happy” on Thursday night. He surprised her with what was for dinner. He was always excited to see her.

He had a friend Paul who lives in Georgia, and a friend Richard who was in Charleston now with his family for the funeral arrangements.

She mentioned that the Charleston airport was a “mess” with all of the slopes and clearing of trees.

She described him as “singular” and unique. He was a big guy with a mustache. He was going bald and wore “this thing” on his head. He wore boots with a spur on one boot. He was not materialistic. He sometimes blew bubbles and said “be happy.” He was great at trivia.

He was very supportive of Anh. He was the youngest boy and had 7 older sisters. He was never risky.

The interview ended at 1306 EDT.

1.5 Interviewee: Mike Anthony Rodriguez

Represented by: (waived)

Date: May 8, 2017

Location: Teleconference

Time: 1330 EDT

Present: Sathya Silva, Aaron McCarter – NTSB; Alison Campbell – AAIB

During the interview, Mr. Rodriguez stated the following:

He is a pilot with Republic Airlines flying the E-175. He started on May 11, 2015 and is a first officer. He met the accident first officer, Anh Ho, when she was a flight attendant at Republic Airlines in July of 2015. She was also working on her commercial pilot's certificate at the time. They became friends and then dated on-and-off for 1.5 years. They were taking a break since February 2017.

He spoke with the accident first officer 2 days before the accident, on Wednesday via telephone. Prior to that conversation, he had not spoken with her since February 2017. They talked on Wednesday about his new niece, and his possible new job interview. He asked her about her job. Everything seemed normal. She enjoyed flying. She was flying with John at the time of the conversation and always flew with him (and had always flown with him) as the company had only one crew on that base.

Her schedule was Monday – Friday starting around 9-10 pm and ending around 6-7 pm. They flew to SDF daily on the same route and he believed it was in the same aircraft.

Flying at night was a difficult transition for her. She had started to adjust. She slept all day. When she awoke at 6-7pm, she would go to the gym and then make dinner which she would take with her for the flight. She didn't have any friends that he knew of in Charleston. She would go to sleep immediately after she got home from the flight in the morning. The upcoming weekend from when they talked she was planning on going to Boston to visit friends and family.

When she joined ACC, she told him that the company treated her fairly and were welcoming and professional. She was thrilled to get the job and never said anything negative about the company. She loved flying the aircraft. She liked that it didn't have an autopilot and that she could hand fly it. He had heard her talk about typical MEL issues which were all routine. All of those issues seemed normal to him.

The accident captain was the only person she had flown with at the company so she did not have comparison for how other captains were to work with. The accident captain brought up relationship problems occasionally. She said he was very safe. This information was from when they were dating 2-3 months prior to the interview.

Mr. Rodriguez was concerned about her based on his experience in the field and flying cargo and was worried about complacency.

The accident first officer told Mr. Rodriguez about an instance where they had gone missed (he couldn't recall which airport) and the captain was the pilot flying. The captain had made a wrong turn off of the missed approach toward terrain. The first officer noticed and mentioned it to the captain and he corrected and turned the other way. Anh had gone home and was shaken by the incident. That was the only flying related story that he could recall she told him.

Ahn never sent him pictures of the flying or of anything as she was a private person. She did not have any other job outside of flying. She was working on her CFI when she accepted the position.

She considered flying the greatest thing on earth. She was originally a school teacher, and then became a flight attendant, and then a pilot. She preferred to be based somewhere other than Charleston. The move was hard on their relationship. She didn't complain much about anything though.

Her plan was to build time with ACC, get her ATP and then fly for a regional airline. She never discussed switching bases with him in the last conversation that they had.

During their phone call on Wednesday, they said that they missed each other. She said she wanted to see him and would have gone to Miami that coming weekend if she didn't already have plans to go to Boston. It was Mr. Rodriguez's birthday the coming weekend. They took a break because the logistics of long distance were difficult as he flew during the day and slept at night while she slept during the day and flew at night. They never argued. She was always happy, smiling, and laughing.

She was an active person. She normally needed 5-6 hours of sleep to feel rested when they were together. When she was up, she was up.

On Wednesday, they had spoken around 7:30-8pm and there was nothing odd about the conversation.

She could have been a morning or evening person as she was very adaptable. She had a healthy lifestyle. He had never seen her take pills of any kind. She was vegetarian and drank smoothies. He never saw her take any prescriptions or any herbal supplements. She ate organic food. She rarely drank alcohol. He had seen her drink one beer once and she had gotten tipsy off of that one. He had not seen her drink coffee, only smoothies.

She never mentioned receiving any pressure to fly. Since she was hired, Mr. Rodriguez had warned her not to be pressured into flying. He had wanted her to work at the company he used to work for, IBC airways which was a Part 135 cargo company that flew internationally. She did not want to leave ACC, however as she enjoyed the trees, winter, etc.

The interview ended at 1426 EDT.

1.6 Interviewee: Derek Mack – Friend of First Officer
Represented by: (waived)
Date: June 19, 2017
Location: Teleconference
Time: 1547 EDT
Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Mr. Mack stated the following:

He (Mack) met Anh through a close friend, Rob, over 2 years ago. Mack and Anh had talked on the phone about her flying career. He recommended Air Cargo Carriers as a good company to work for to build time and experience before heading to fly for the airlines.

Mack mentioned that “thunderstorms didn’t phase her” and she was always excited about lightning being “everywhere.” He was very apprehensive about thunderstorms and felt that her excitement was likely because she was still relatively new to flying and didn’t have the “wisdom that comes with experience” about bad weather.

Mack was protective of Anh wanted to check up on her while she was at ACC and make sure that her captain was treating her well. He didn’t want someone he recommended to the company to be unhappy and felt that it would be a poor reflection of himself if that were the case. He had a good relationship with Luke McGrath, the chief pilot, and talked to him often. Anh was very happy to be flying with ACC. He had only spoken and texted to her on the phone. They had planned to meet face to face but didn’t get a chance to before the accident.

Mack left ACC in November 2015. He worked there for 12 years and had flown the Charleston route many times. He was currently an Airbus captain at Jetblue.

Anh loved the actual flying of the aircraft. She was frustrated at some point because she felt she was “messing up the radio calls.” He had told her not to worry too much as it’s a transition to get used to using flight numbers instead of call signs.

Anh had told him that Jonathan, her captain, was a nice guy and treated her really well. Jonathan was patient with her and was “showing her stuff.”

Mack had told her to prep for ACC by getting into the simulator and practicing in IMC as that was the environment she would be working in. She had taken his advice and was ready for the job.

Mack had heard from Anh and other people he had talked with at ACC that Jonathan’s IFR skills were not strong. There was talk that they “could not believe that they made him captain.” He had heard that Jonathan was a former bush pilot and was used to scud running as opposed to IFR flying. Anh had stated that Jonathan’s VFR flying was awesome, but that he wasn’t good in IMC. She had told him during a phone call that Jonathan had trouble staying on heading, speed, and course, when in IMC. She also told him that Jonathan would fly at 4000 feet around Charleston which Mack considered dangerous because of the mountainous terrain and towers in the area.

Anh was not the type to speak up. Mack thought it may be due to her Vietnamese culture. He had asked her if he should talk to Luke about her concerns, but she asked him not to. He thought that she was in what he called the “new pilot syndrome” where she didn’t want to complain right off the bat. He understood, especially at ACC where she would have been stuck flying with the same pilot and it could have created a hostile work environment and poor for CRM. He heard of another pilot having an issue with the captain and it created a hostile work environment, and caused the first officer to end up in tears. Anh had not stated that she was concerned about the possible hostile work environment, this was what Mr. Mack had deduced from their conversations.

Mack had flown with a handful of pilots at ACC who flew “way” outside of the standard operating procedures (SOP). When he first started at ACC, his captain was hard on him and he came to appreciate that. He discovered that at ACC there was a compromise between flying to standards and managing the cockpit work environment. He described his choices; fly with good pilot who was hard on him, versus a poor pilot who was a nice guy. He would choose the good pilot as “the lesser of two evils.” He thought Anh would have made a good captain and would have been one that stayed within the SOPs.

When asked what kind of behavior he had seen outside of SOPs, he stated that some pilots wouldn’t be standardized and fly the set profile for the Shorts with airspeed, gear, and flap settings at specific locations on approach. He had flown with one guy who was always in a hurry and gave the example of another pilot flying inbound to the airport at 3000 feet and fast, then diving to the airport at the last minute. This other pilot would also be programming the GPS for the return leg even though they hadn’t landed on the outbound leg yet. He had also seen pilots pull the fuel levers to ground to get the aircraft to descend faster. He witnessed pilots side slip the aircraft, which he didn’t believe was safe to do in the Shorts. He said most of what he had seen from other pilots in terms of not following SOPs was related to poor planning. He clarified that these were specific individual pilots at the operator and not a reflection of the overall culture of the airline. He wasn’t sure how Jonathan had stayed that long at ACC as he had failed a few check rides. He had also seen certain pilots not use checklists. He felt that these problems typically came from pilots who had flown somewhere else and had brought bad habits to ACC. He believes that that is what happened with Jonathan during this accident.

He stated that ACC could not detect this type of behavior. They only sent a check airmen to fly with them occasionally and in those cases, the pilots become model pilots for that flight, and then return to their bad habits when the check airman is no longer there. When asked about CRM at ACC, he said that it’s difficult for ACC because they had these scheduled routes and their pilots were based where the aircraft were. He felt that ACC could get more information on pilot’s normal habits if they sent a first officer to fly with different captains for a week or so.

He never brought his concerns about pilot’s not following SOPs to ACC management. He felt that everyone deserved one chance. He confronted the pilots about the behavior and said that they “would not do that ever again with [him] in the airplane.”

Anh told him about one night where Jonathan lost situation awareness on a missed approach and almost hit a mountain.

Mr. Mack believed that ACC needs to give their pilots more time off. He felt that that would keep people from rushing and taking shortcuts to be done with the flight. There was a time in the past that a chief pilot “ran people away” because he worked them too hard. He stated that pilots need rest. Comparing his schedule at the airlines, he felt that pilots at ACC were flying a lot and that fatigue might be why pilots are in a hurry. When he left ACC, he felt burned out from the schedule he was flying. He said that it could be why morale was low in the company.

He believed that ACC’s aircraft should have CVRs and FDRs because they need to know what’s going on in the cockpit. Some people treated the shorts like it was a C172, but he follows the “respect the machine and respect its limitations” motto.

He had not filed an ASAP report since the time he’s been at Jetblue because he is thorough, but he would fill one out if faced with a situation that would cover him if he needed too

ACC used to have “cowboy” pilots. When assessing the accident flight, he stated that on live atc he listened to the controller clear the flight for the localizer and that the captain had requested the VOR approach. The localizer MDA was about 400 feet agl and the VOR MDA was about 700 feet. Anh had stated that the captain had had trouble in the past maintaining the localizer course, and that there was a mountain off of the right of the localizer course. He thinks that Jonathan picked the VOR-A because he wasn’t comfortable flying the localizer approach. He also thinks that Jonathan ducked below the MDA on the approach. He stated that Anh had told him on the phone before she has seen Jonathan duck below the MDA on approaches before.

In the Shorts, if you roll past 45 deg, the aircraft responds with a severe nose down pitch. If you were going to do that, you need 2 turns on the trim to counter the nose down pitch.

He noted that Anh’s wrist was broken when he saw her during her funeral.

He believed that Air Cargo’s SOPs state to take a straight in approach over a circling approach.

He and Anh normally talked on the phone as he was not a fan of texting.

He reiterated that ACC did a great job and they had been good to him.

The interview ended at 1705 EDT.

1.7 Interviewee: Robert Arnold – Friend of First Officer
Represented by: (waived)
Date: July 11, 2017
Location: Teleconference
Time: 1005 EDT
Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Mr. Arnold stated the following:

He was 32 years old. He began flying in high school and went to the University of Dubuque. He flight instructed at Wings Field in Pennsylvania. He flew for ACC for 3 years flying the Shorts aircraft. Then, he joined Republic for 3 years between March 4, 2013 and Jan 31, 2016. He currently flew for Spirit Airlines and he began there on February 1, 2016. When he was at ACC, he flew 1.5 years as a first officer based in Harrisburg flying a DHL route to Covington, then transitioned to captain and spent 1.5 years as captain in San Juan, Puerto Rico.

He met Anh when she was a flight attendant at Republic airlines. She had told him about her interest in flying and he wanted to help her out. They met about 3 years ago; around the time when he started flying for Republic. They stayed in touch throughout the years and texted often. The last communication with Anh had occurred the night before the accident, May 4, before she flew to Louisville. They texted about her sister opening a sandwich shop and he had joked with her about flying cargo.

Anh seemed to like flying for ACC. She was excited to be flying and was hired with low time. Arnold knew she would go through the ranks quickly. He had never heard her complain about the company. He had forewarned her about the night operation and she had heeded his advice and was adapting to the schedule. She was never a coffee drinker but started drinking a shot of coffee during the night schedule. Overall, she liked flying for ACC. She wasn't the type to complain about anything even if there were issues.

She had discussed her captain with Arnold. Alvarez often talked with her about his relationship with his girlfriend. She felt more comfortable flying IMC in the aircraft than Alvarez. She had mentioned that several times; she had concerns with his instrument skills. There was one event where they had taken off from CRW and when they put the gear lever up, the gear would not come up and the Captain, who was flying at the time, took it to be an emergency and flew below the cloud layer to return to the airport. She was concerned about terrain and called out altitudes for the captain. She said the landing was scary. When she relayed the experience to Arnold, Arnold talked to her about how the situation was life or death and that she should talk to the company. She talked to Alvarez about the incident, but Arnold believed that the company only knew about the gear issue and did not know about the decision making to make it back to land.

When he was at ACC, he had never contacted the FAA. He felt that the safety department at ACC was competent, but that some upper level management put him in situations where he was uncomfortable. Some of these situations included aircraft problems and different interpretations on what was "MEL-able" or not. These conversations usually occurred with the chief pilot. To

resolve the issue, he used to call the director of maintenance on a recorded line to discuss it formally and have his opinion recorded.

He had heard through the grapevine that UPS out-base managers put external pressure on the pilots at ACC. He had never had that experience with DHL or FedEx who were the customers on the routes he was flying.

When he was flying at ACC, he was never flying with the same crewmember. In Harrisburg, their schedule consisted of 2 weeks on, 1 week off, so crews rotated through. In Puerto Rico he was in charge of 5 crews. So, his experience was totally different from what pilots typically got at ACC.

He was concerned about their policy of having the same crew fly together consistently. He felt that there was no way to do checks on the pilots. Flying together could get monotonous and people can get into routines. In a multiple crew pairing situation, if there was someone who wasn't following SOPs, there were multiple people who could catch it. There was also benefit from multiple crews so that pilots can learn from different people. It was great for low time pilots to learn from multiple people.

He had seen SOPs be disregarded many times when he was at ACC, but could not recall a specific instance.

When he was a first officer at ACC, he felt that there was a culture where senior pilots with experience were captains and felt like they could bend boundaries of SOPs and the FO's may not be taken seriously. This is something he encountered as a first officer and he responded by doing additional training and more studying, so that he could become more confident in the aircraft and better able to speak up about issues to the captain. He had a specific conversation with Anh about speaking up in the cockpit even if she wasn't comfortable doing so. In the last several months prior to the accident, he understood that she would have conversations with Alvarez and was more comfortable speaking up. There were multiple cases where she mentioned that Alvarez was not comfortable flying in IMC.

Arnold stated that Anh and Alvarez seemed to get along. Anh was the type of person where even if she didn't like someone, she'd be civil with them. As far as Arnold understands, Anh never brought any issues up to the company. He knows that she did speak with her captain after the gear incident, but Arnold was not sure to what degree she voiced her concerns. He did not expect that she would speak very authoritatively with Alvarez.

Anh had also talked to Arnold about the captain's approaches to land in her texts however he could not recall the details of that topic. She also had mentioned the VOR-A into CRW, however he could not recall the details of the topic.

When asked to describe the safety programs at ACC compared with the experiences he's had since he left ACC, he stated that there were some short falls they could improve upon. At Republic, they had an AQP and more CRM. The CRM training at ACC was basic and the check rides were old-style check rides where it was not crew oriented. ACC does initial training in the simulator with view limiting devices. At Republic, they conducted training in the actual aircraft. With the

simulator, it was possible to “cheat” in the sims and look around the hood. Republic also used particularly complicated airports and approaches that they would fly as a scenario in their check rides. Arnold considered CRW to be a complicated airport given the terrain surrounding it.

When asked if he would have used an ASAP program if ACC had had one, he stated that he absolutely would have. He felt they also could have used a Professional Standards Program as due to the culture, pilots don’t know who to go to with problems, and there was also a feeling no matter if it’s true or not your job may be on the line for speaking up. When asked what kind of issues he’d report in ASAP, he stated he would report altitude deviations, approaches, differences in interpretations of the MELs. There were many deviations, particularly because the aircraft did not have an autopilot and he would have reported issues as a crew.

Arnold had never met nor flown with Alvarez himself.

Morale at ACC depended on which base and which route was flown. The flying in West Virginia was harder flying. It was particularly difficult since until recently, UPS pilots had to load and unload the aircraft. He had never had to do that on DHL and FedEx flights.

He felt that the initial training at ACC was great as he was coming out of flight instructing. The instructor from Flight Safety was good and he felt well prepared to fly the aircraft. He had had an understanding that pilots upgrade to captain about a year after they start flying as a first officer so he was prepared for the upgrade. He felt confident and ready to fly left seat. He could not recall any particular CRM training or formal leadership training for the captain upgrade. They did test decision making during the check ride.

He clarified that he had never had any issues with the Director of Maintenance. He used him as a resource on the recorded line. He did face issues with the chief pilot who would call him on a non-recorded cell line and not necessarily tell him “go fly, go fly” but would push interpretations of rules that would enable a flight to be taken. When he first started at ACC, he had had a conversation with the president of the company who had voiced financial concerns in response to whether a flight should be taken. As a pilot, he felt he had control and had to disregard what the president said in order to maintain safety of flight. That was the only time he was ever approached with reasons associated with the financial state of the company.

He had enjoyed his time at ACC. Flying night cargo had made him a great pilot and was a good experience. Part 135 cargo had its challenges but overall, he felt that the company was very good.

He considered himself a mentor to Anh. He called Derek Mack to refer Anh for the job at ACC. Derek had already left the company but still had contacts there.

The company had no way of identifying issues. He had heard that a few of Alvarez’s former FO’s had spoken up and Alvarez had been given a checkride and passed. ACC needed some way of identifying issues. He had offered to talk to someone at ACC on behalf of Anh when she told him about the gear event, however she said she wanted to handle it herself and he respected that.

The interview ended at 1100 EDT.

2.1 Operator Interviews

2.2 Interviewee: Matthew Mattison – ACC Director of Training (initial interview)

Represented by: (waived)

Date: May 9, 2017

Location: Air Cargo Carriers Headquarters, Milwaukee, WI

Time: 0900 CDT

Present: Aaron McCarter – NTSB

During the interview, Mr. Mattison stated the following: The structure of ACC's training: In totality, it was 4 to 6 weeks of training which included basic indoctrination, systems, procedures, NYC Shorts SIM, then differences. The entire process from day one to flying the line was 4 to 6 weeks. The Typical First Officer (FO) had previous flight instruction experience with 500 hours of flight instruction given and a total of 800 hours. Instrument proficiency was "big" And attitude was everything. Pilot must have a strong background and work ethic. "We [ACC] is looking for trainability. Some of the pilots we get with 300 hours are best. Anh Ho showed real ambition. She had a great attitude."

ACC sometimes had to hire Captains off the street. We were doing a big push for pilots. We had to keep up due to the pilot shortage and changing pilot environment. The training program was constantly evolving in order to meet the new demands for pilot hiring and retention.

There have been three (3) classes over the past our (4) months. We just postponed the class last week due to the accident, but it will be rescheduled soon to the second week of June.

Interested in starting an SMS program. It was already in the works in terms of concept. We brought in Michael Roberts: Ground Instructor because of his LOSA/SMS experience at the regional level.

When a pilot graduated and went off to their respective base, it's hard to know what they were doing. They rarely come back and it was difficult to see them on a regular basis.

The typical hiring process: The phone call stating you were hired and we give them a couple of weeks to get their lives in order. When they arrive, they have three weeks of class. Week one was indoctrination, week two was systems and week three was procedures. Based on schedule, week 4 was the simulator and the checkride. Week five was differences training between the two different models. At the end of the week, they departed on a Friday and went to work Monday.

Their duty station was seniority based. They were given an option: this was what was open, pick your station. "Volunteered or voluntold [sic]"

Mr. Mattison didn't know the washout/failure rate. Ask the Chief Pilot Luke. He didn't have the numbers for that.

Pilots were "running" for Piedmont, Skywest, Compass, Republic. Made it hard for retention.

Overall quality of life was good for the pilots. Monday through Friday work week and off part of Sat and Sunday.

There were 4 to 6 pilots per class on average. Previous few classes, the pilots all passed and graduated.

Pilots can fly together indefinitely. They were paired together like partners. When there was vacation time or a sick call, a check airmen or senior pilot will fill in for the pilot. There was no other routine schedule for pilot/operations oversight that he was aware.

Never heard any negative work about Ms. Ho. "Not a peep from anyone about her negatively" She always wanted to do more. She was a fantastic employee.

Mr. Alvarado was a character. He had a "big" personality. He remembers that he came from a large class a couple of years ago and he stood out both physically and personality. No negative comments about him.

Once the pilot started flying and has his/her base, there was no real unscheduled oversight. Annual recurrent, and that was it. There was no "IOE" type of program.

There was no formal or documented irregularity or safety reporting program. The pilot was expected to make a phone call to him or the CP if there was an issue or a report that needed to be made.

Training records were mostly paper. Some electronic but mostly paper. He would provide the files of the two pilots and several randomly selected pilots that the NTSB chooses.

There was a test at the end of class (Both systems and indoc) the test was 50 questions multiple choice. There was no formal documentation of grades or a record of the test. It was more of a gauge of student progress to help instructor. There were no grade records.

It was based on 80% pass rate. It was more of a tool to give department a progress report and to help them reeducate.

In order to wash out of class, there must be a personality conflict or the student must fail the test "miserably." If the gut instinct was that "you're going to be a nightmare, you will be let go." Out of the last two classes (one was rescheduled due to accident), the 6 students and 4 students respectively, all passed and were currently flying. Everyone made it and there had been no regrets.

The NTSB was welcome to any training programs, manuals, objectives and outlines. They will provide the program on a USB stick for download.

2.3 Interviewee: Matthew Mattison – ACC Director of Training (follow-up interview)
Represented by: (waived)
Date: May 9, 2017
Location: Air Cargo Carriers Headquarters, Milwaukee, WI
Time: 1320 CDT
Present: Sathya Silva – NTSB

During the interview, Mr. Mattison stated the following:

CRM training included lecture based on powerpoint slides. It included team building. As each topic came up on the slide, he discussed different examples. In simulator training, they also included CRM in debriefings.

He flew with Jonathan, the accident captain, once from MKE to SDF a while ago. He remembered that he got sick that day.

They did not have specific fatigue training. Pilots could call in if they are too tired. It hadn't happened too often. It mostly happened in San Juan where the duty days can get long.

They followed FAR sterile cockpit procedures. For them, that meant sterile cockpit anytime outside of cruise flight.

He just hired a ground instructor. He had a check airman at Myrtle Beach, a ground/flight instructor in Minneapolis, and Luke was also a check airman.

The original training materials came from Flight Safety and had been passed down. He revised them to keep up to date.

The interview ended at 1327.

2.4 Interviewee: Michael Roberts – ACC Ground Instructor
Represented by: (waived)
Date: May 9, 2017
Location: Air Cargo Carriers Headquarters, Milwaukee, WI
Time: 1015 CDT
Present: Aaron McCarter – NTSB

During the interview, Mr. Roberts stated the following:

He came from a more structured environment at a regional airline. He understood he had only been at ACC for a couple of weeks and was just getting up to speed on the operation. He believed that ACC had a positive attitude and was open to change. ACC was more of a family environment than his predecessor. Probably because of its size.

He was thinking about sending out a survey to see what the attitudes and issues there were with the pilots and outstation personnel. This was in the conceptual phase and had not been implemented yet. He also had some ideas of bringing in a LOSA Collaborative consultant/contractor as a possible way for oversight.

He wanted to make some changes that would incorporate a more structures system level environment. Today's environment was so different that it was 5 years ago. Five (5) years ago the seniority was 5. This year a high seniority was one year, then they leave.

Prior to the accident, he had some ideas on SMS and spoke to the leadership and they seemed open and receptive to the idea.

Things in the industry had happened so fast in the past several years.

The interview ended at 1040 CDT.

2.5 Interviewee: Luke McGrath – ACC Chief Pilot
Represented by: (waived)
Date: May 9, 2017
Location: Air Cargo Carriers Headquarters, Milwaukee, WI
Time: 1139 CDT
Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Mr. McGrath stated the following:

He had started flying when he was 15 years old on December 31, 1999. He attended Embry Riddle Aeronautical University and received a bachelor's degree in Aeronautical Sciences, a minor in Safety, and a masters degree in safety. He earned all ratings Private through CFII at ERAU and was a flight instructor there from 2006 to April 2008. From June of 2008 he flew for ACC. He was a first officer on the Short 360 in Savannah. When he had 1473 hours, he upgraded to captain in 2010. He was then a captain at Charleston, WV. From 2012 to 2015 he served as the director of training for ACC. On April 24, 2015 he became chief pilot for ACC, which is his current position.

The most challenging part of the job was managing from afar. He could not see the attitudes and demeanors of his pilots. He did a lot of phone and email correspondence. He assumed that if a pilot was having difficulties that they would reach out. Although, he did keep an eye out and if he saw challenging weather for example, he would reach out to the crew. He was available via phone 24/7. He did realize that some people didn't want to call the chief pilot. If a pilot called in sick or requested vacations, he tried to go down to the base and replace that pilot so that he could see the field operation.

If a pilot called in sick, they would call dispatch. Dispatch would look through their list of standby pilots. They had a "hot-standby" aircraft in Columbus which can be ready to go quickly. Safety of flight was number one and the customer comes second. He provided an example where the first officer didn't show up for duty last Monday. They fixed the problem by rerouting the Charleston aircraft to Beckley. They weren't necessarily on time, but they got the job done safely.

When asked if he received pressure from UPS to fly, he responded that UPS's job is freight. He hasn't felt a lot of pressure. Sometimes they asked them to call another carrier to get the shipment. He didn't want the crews involved with those decisions; they took care of it on a management level. The crews may witness the interaction, but he made it clear to the crew what their role is.

ACC flew freight for UPS, FedEx, and DHL.

The pilots could file a service report to management. This was a paper form. It mostly dealt with maintenance and some customer difficulties. If pilots were having trouble with their peers they usually talked directly to management.

When posed with a situation where a pilot called in stating that he's sick of flying with a particular captain, Mr. McGrath described the steps he would take to resolve the issue. First, he would seek factual information and talk to the other pilot involved to evaluate the difficulties. He would find out what was said between the two, then he would turn to the SOPs to determine what he would

do about it. These complaints and corresponding actions were not logged anywhere. Sometimes they would pull someone or separate crewmembers. They would always conduct a performance review with the accused pilot. He didn't recall when the last time an issue like this came up but he thinks it happened in the last calendar year. At most, they saw this once per year. They did not solicit this type of feedback.

Management communicated with the flight crew via email or any means necessary if it was urgent.

PICs received a proficiency check every 6 months. They also got annual recurrent training where an instructor is dispatched to their location. The check ride was a separate, non-revenue flight, and the 299 line check is conducted on revenue flights. They did not do recurrent training for captains and first officers at the same time. They conducted these trainings as pilots became due for them.

There were 6 flight followers on staff. They were staffed Monday through Saturday 24/7. On Sundays they had someone on call. They tracked aircraft with FOS. They used the tool for flight following only. If an anomaly occurred, they could look back at the data but they didn't do any trend analysis on the data otherwise.

The FAA visited them quarterly. They ran through their checklist and the company did well. They were in close communication and had open communication with the FAA. The FAA did travel to some of the bases - mainly Danville or Warsaw. They were transparent with the FSDO.

Their safety program consisted of a "see something, say something" protocol. They had received safety reports in the past regarding weather and maintenance issues that they put into the SDR program. Occasionally they got a customer difficulty report; for instance if there was a customer service issue between ACC and UPS/FedEx etc. When asked if any safety reports were formally logged and tracked, he stated they were not. There was no method to research and trend safety/irregularity calls.

There were no hotlines, safety reporting forms and no safety policy statement.

They had no previous safety concerns that were related to this accident. It took them completely by surprise.

They had had other incidents. There was a mid-air collision in 2005 with an aircraft which they were flying for the military. There was also a case in Oshua, Canada where the aircraft slid off the end of the runway. Following the latter incident, they implemented slippery runway procedures.

The company encouraged them to report safety issues. This was not written anywhere but they state it during pilot training.

There was a safety document in the FOM.

There was a bid system based on seniority which is how they assigned pilots to bases. They also considered whether either pilot had less than 100 hours flying with the company. They always wanted one pilot to have at least 100 hours at each base.

CRM training started when they walk into training and ends when they leave. They emphasize it during training but did not have a specific training course for CRM. They did not do specific CRM training during simulator training either. It was inherently prevalent in their training and operation.

When asked how they ensure bad habits aren't learned in the field, he stated through follow up. In the case of the accident crew, he had talked to the captain prior to the FO starting about her experience level. They typically tried to follow up within the first week with the new crewmember to see how things were doing. This was not done with the accident first officer.

He got a lot of calls from pilots which vary in topic. For a case where a pilot was filling out an MEL, he had responded with "guys, you know you learned this," regarding the pilot signing the MEL.

He reported to Steve, who is the DO and President. He worked with the DM. The director of training answered to him, though he, as chief pilot, had oversight of the training and was disciplinarian. He had 39 pilots currently.

Matt and Luke did training themselves. The training took between 4-7 weeks. They did a minimum of one week indoctrination, one week systems, 1 week procedural (including checklists and approaches). Procedural training was done in an FTD or with a poster. Then, the FOs and captain's split off. The first officers did 12 hours in either a simulator or on an aircraft. They preferred to use a simulator to vary the conditions and training. The first officers then took a check ride with a check airman. The captains did 20 hours of flight training in the simulator or aircraft. They then did the FAA type certificate ride. If the POI was administering the test it counted for the 135 requirements in addition to the type rating. If it was a DPE, it would only count for the type rating.

He was asked about the pros and cons of having the same crew fly with each other every day at the same base. He stated that getting comfortable was both a pro and a con. He has had FOs that he is best friends with and others that are not. A con was that people could pick up bad habits. From an oversight perspective, it was easy for him to pick up whether a crew was doing something wrong by flying with either one of them.

He had never flown with Anh on the line, only during training. He had flown with Jonathan when he was an FO in early 2016 or late 2015. He had flown with Jonathan's captain when Jonathan was out sick and he did not note any bad habits.

He doesn't have any challenges working with Steve. They work well together and Steve is receptive to Luke's ideas. They interacted daily and he relayed or recapped everything to Steve.

The interview ended at 1256 CDT.

2.6 Interviewee: Kara Kiernan and Darren Tham – ACC Flight Followers
Represented by: (waived)
Date: May 9, 2017
Location: Air Cargo Carriers Headquarters, Milwaukee, WI
Time: 1342 CDT
Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Ms. Kiernan and Mr. Tham stated the following:

They used flight explorer to track flights. They looked at “green/green” status of flights. The first green was aircraft status while the 2nd green was weather status.

They did not provide any type of paperwork or information to the pilots. The flight plans were pre-filed with Lockheed Martin Flight Services as the times and routes of the flights were the same every day. If a change came up, then the flight followers would file that flight plan. Their job involved talking to pilots who told them the aircraft/weather status pre-departure. The flight followers told them about any messages they had for example any swaps or maintenance needs, etc.

For flight following training they had an outline. Steven did ppt training with new flight followers and Kara did more OJT training. The last few flight followers had sat through parts of pilot training as part of their training. Some of the requirements were checked off with the pilot classes like emergency training. The flight followers were given a packet with guidelines to do the job. The training typically took 2-3 weeks. Until 6 months, the trainees were paired with more experienced people.

There were 2 people flight following aside from 3-4pm and 2-4 am when there was only 1 person working flight following, however they did not have flights at that time. They had 6 flight followers total and they worked 8 hour shifts.

Kara used to work at Skyway airlines and Darren came from Fed Ex flight ops.

The interview ended at 1439 CDT.

2.7 Interviewee: Duane Stroik – ACC Director of Maintenance
Represented by: (waived)
Date: May 9, 2017
Location: Air Cargo Carriers Headquarters, Milwaukee, WI
Time: 1512 CDT
Present: Sathya Silva, Aaron McCarter – NTSB

During the interview Mr. Stroik stated the following:

He started maintenance school in 1993 in Milwaukee. He worked for ATA and Sun Country. In late 2006 to 2007 or 2008, he worked in Iraq. He was assistant DOM for ACC in 2008, and became DOM in late 2008 or early 2009.

They had an approved aircraft inspection program (aaip). He had streamlined the program and made it more progressive, essentially “cleaning it up.”

The training for ACC’s mechanics was on the job. Out base mechanics, they hired with 10-15 years of experience. At Myrtle Beach, San Antonio, and Danville, they used contract maintenance. They had 6 mechanics for the other outbases. Outbases referred to any base that was not Milwaukee. In San Juan, they had 13 mechanics with the company that they merged with.

They used the Sinex system to log maintenance. Everything was backed up with paper. He thought that the PMI could see when an inspection was coming due in Sinex but that would be all he could see.

ACC had their own STC for the Shorts. In the Short 330, the starter generator was a problem that kept coming up. There were no chronic issues with the aircraft involved in the accident. They had a landing light out a few weeks ago and both engines had been replaced last year.

They used a website to look at raw data to search for anomalies. Whichever pilot was not flying, would input engine data into their ipad which would get sent to the company once they connected to wifi.

PMA was their parts manufacturer.

Their PMI was new, Tim Spreen. Mike Piecinski was their prior PMI who was there for 7 years. Mike worked with them and he was very proud of where they were when he left. They had open communication. The FAA had them at low risk. They had 2-3 self disclosures in 5 years.

When it came to reporting, service reports came back to him or Luke. The group talked every day. Either he or Pat (assistant DOM) try to get on the road twice a year to see the out bases.

He hadn’t been stopped on maintenance for financial reasons.

The outbases were very comfortable reporting safety issues. There were no consequences for delaying an aircraft.

He said that morale was 50/50. There were so many jobs available. Due to retirement and attrition, people were leaving but they weren’t being replaced. The mechanics worked 7am – 3:30 pm with

a half hour lunch. They worked minimally on the weekends. They liked the variety of tasks and they liked that they don't work second shift.

The interview ended at 1614 CDT.

2.8 Interviewee: Steve Altnau – ACC President and Director of Operations

Represented by: (waived)

Date: May 9, 2017

Location: Air Cargo Carriers Headquarters, Milwaukee, WI

Time: 1629 CDT

Present: Sathya Silva, Aaron McCarter – NTSB

During the interview, Mr. Altnau stated the following:

He decided in 8th grade that he wanted to be an airline pilot. He did his initial training at NorthStar Aviation in Wisconsin. He worked as a CFI for them for 1 year. Then, one of his students bought a Baron and asked him to fly that aircraft on a 135 certificate (DuPage Aviation). He was flying people in the Baron for 1 year. He then went to Scott Aviation, where he worked for one year, part time flying a King Air 300. He was also flying for a bank until Scott Aviation asked him to stop doing both. In 1988, he joined Air Cargo Carriers (ACC). He was hired as a captain on the Skyvan. ACC started as a company in 1986. 1.5 years after he started there, he became chief pilot and a flight/ground instructor. In the early 90's, ACC bought the Short aircraft and he became a captain in the Shorts. He became director of operations of ACC in 2002. When the company merged with Telford aviation in 2008 he also became a VP in addition to DO. In 2012, the company divested into a commercial company and a government company and he became President and DO of the commercial company, ACC.

He was responsible for staffing, customer relations, maintenance, acquisitions, and had fiscal responsibility. He hadn't flown in 5 years with the company. The company was doing very well financially. In April 2016, ACC purchased MN aviation. In less than two years, the MN's net worth quadrupled.

He described his biggest challenge as pilot staffing. He recognized that this company was a stepping stone for the airlines. He used to divide pilots into 3 groups: those that stayed less than 2 years, those that stayed between 2 and 6 years, and those that stayed longer than 6 or 7 years. These days, pilots didn't really stay more than 2 years.

He described the company's CRM training philosophy as knowing roles, responsibilities, and expectations when an event happens.

When asked why the crews are paired together in different cities, he said that the company was not hub and spoke. There were predictable standalone routes. The benefits were that the crews could be home every day. They knew the airport, terrain, weather, and routing. The challenge was that there could be complacency. They knew the frequencies and controllers. There was also a lack of variety. The company tried to encourage individuals to improve themselves. There was no written guidance on that policy and it was stated during pilot training.

They did not get feedback from pilots in the field. In the past there was more feedback. He feels that the older generation of pilots felt more pride and accomplishment in the job.

If there was a safety issue in the field, pilots could email management. They did not have a formal form to fill out. Some examples of safety issues were parking too close to a light pole, or issues with the customer.

During simulator training, instructors travelled with the pilots to LGA and conducted the training.

A 1 year captain made about \$75,000 per year. A 2 year captain made \$90,000 per year. The pilots were salaried.

The interview ended at 1655 CDT.

2.9 Interviewee: Griffin Douglas Shafer – Former FO for Captain

Date: May 16, 2017

Location: Teleconference

Time: 1233 EDT

Present: Sathya Silva – NTSB

During the interview, Mr. Shafer stated the following:

He was 24 years old. He began flying at 14 years old in San Francisco. He went to college at Embry Riddle Aeronautical University in Daytona, FL. He earned his private pilot through multi-engine commercial certificates there. He was referred to Air Cargo Carriers (ACC) by a friend and joined the company 1 month after graduation from Embry Riddle. He began ground school at ACC in February of 2016. He holds approximately 1000 hours. He is currently a First Officer on the Embraer 170/190 at Skywest Airlines. He joined them in March 2017 and passed his check ride last week.

His interview at ACC was a phone interview with the chief pilot. A month later, he received an email job offer. He had had no Shorts experience prior to ACC. He described the training at ACC as rigorous. It lasted about 6-7 weeks. He felt like his ATP/CTP class at ERAU prepared him for the rigor of the training at ACC. He felt like the training at ACC was as tough and he received as much information as he training he just completed at Skywest.

When asked if he felt prepared to fly the line after his training, he stated “yes and no.” He had all of the knowledge, but he was not confident. His first Captain at ACC, Devon Smith, was very nice and helped him get up to speed. He spent one year at ACC. The first 2 months, he was based in Richmond. The next 2 months, he was on hot standby in Columbus. From August 2nd – December, he flew with Jonathan Alvarado in Charleston, WV.

When he first started flying with Jonathan, it was right after Jonathan had upgraded to captain. Mr. Shafer was Mr. Alvarado’s first first officer. Mr. Shafer stated that the transition from the right seat to left seat took longer than he would have liked. From December 2016 to March 2017, he was also paired with a new captain in Warsaw, but that captain transitioned very quickly while Alvarado took a few weeks to get the hang of the different flows and paperwork associated with the upgrade. Mr. Shafer stated that Mr. Alvarado’s flying skills were “very good” and that from what he understood, Mr. Alvarado was a former bush pilot in Alaska. He stated that Mr. Alvarado was very knowledgeable and often quizzed him in the aircraft. He did not see Mr. Alvarado do anything unsafe. He stated that they followed the FOM and SOPs. If there was a maintenance issue, they wrote it up and got it fixed. They flew IFR most of the time. He rated Mr. Alvarado’s IFR flying skills as better than his own when he first started with the company. Mr. Shafer feels much more comfortable in IMC now.

At CRW, if the weather was “crappy” but above minimums, they would fly the ILS 32 (he guessed the runway number). If the weather was clear, they liked to fly into runway 5 via visual approach or localizer. He doesn’t recall ever flying the VOR-A into CRW. They had conducted missed approaches as a crew and did not begin approaches if the weather was below published minimums. There were times when the tower reported RVR less than 1200 feet and they would have to conduct a missed approach.

He didn't recall Jonathan ever video taping in the cockpit.

They used EFBs in the cockpit. Their flight following program was Flight Deck Pro. Mr. Shafer wasn't a fan of this application and preferred the Foreflight application. The iPad also had SOPs and the FOM. He believed that ACC had a written policy that the pilot monitoring should have the iPad strapped to his/her leg so that the pilot flying could see it also.

He recalled one time he had an emergency with the accident captain. He believes it occurred sometime in November, possibly the 15th. They had left Charleston for Lexington, and about half way there, they received a smoke indication in the tail baggage compartment. Mr. Shafer was pilot flying at the time. They talked as a crew and referred to the QRH, which said that even if there is no cargo in the compartment, which there wasn't, to blow both fire extinguishers. Mr. Alvarado blew the fire extinguishers. They declared emergency and landed in Lexington. Upon landing, the light extinguished.

The aircraft did have DME installed.

When he first started flying with Jonathan, he did have trouble voicing issues because he didn't know Mr. Alvarado very well. He felt Mr. Alvarado was open to suggestions. He enjoyed flying with Mr. Alvarado. Occasionally, Mr. Alvarado would tell him about his girlfriend and their plans for the weekend. He does not recall Mr. Alvarado ever speaking about breakups or issues with the relationship.

He had heard a rumor that Mr. Alvarado had trouble with passing ACC checkrides in the past. He has no idea if that was true.

He rated Mr. Alvarado's landings 7 out of 10. 90% of the time they were stabilized. Sometimes they came in low which was easy to do in the aircraft and easy to recover from with a little bit of engine power. Coming in high was much worse. The aircraft didn't like to come down. With gear down, full flaps, and idle power it still had difficulty descending. It was the high cases that they typically went missed for. If either of them call for a missed approach, they conduct a missed approach. Full flaps were a normal procedure for landing. As for decisions to go missed, it could come from either pilot. When Mr. Shafer was PF and recognized he was unstable, he would decide himself to call a go around. There were times when Mr. Alvarado was PF and Mr. Shafer had to call for a go around which Mr. Alvarado conducted without question. There were also times when Mr. Alvarado was PF and would himself call for a go around.

He stated that ACC was a good place to build flight hours. They flew 6 nights per week with an 11pm – 6am schedule. "The schedule sucked." He also stated that you "hope you get along with the captain because you'll be flying with him" constantly.

The planes needed updates. He never felt unsafe but felt much safer now at Skywest. He would have liked to have TCAS and a working weather radar, but also more safety throughout the company. When asked to expand on why he feels safer in a Part 121 operation, he said that everything he did once he walks onto the aircraft at Skywest was recorded and monitored which provided a level of safety. They had a CVR. When he left ACC, he "was done flying freight." He never felt he couldn't say anything to ACC management. He could call the chief pilot with ideas, but he wouldn't know whether those got implemented.

If he could, he would have changed the scheduling of his job. The duty days never exceeded maximum hours, however they were very long, and he sometimes did not get as much rest as he would have. It took him 6-7 months to adjust to the night schedule, which was right about when he left ACC. The overall amount of flying was too much.

He used all of his sick days. He was often sick and he blames the schedule as it was not healthy nor natural. He had never received blame from the company for calling in sick. He hadn't known anyone who had called in fatigued. He also had never called in fatigued. There were times where he was tired but legal to fly. In the back of his head he did think "what's the company going to think if I call in fatigued once a week?"

The flights were delayed pretty much every night. The crew could call delays/cancellations for weather with no push back from the company. The crew had no control over scheduling and destinations.

He did feel pressure to complete the flights. He thought it was because it was his first job and he wanted to push through.

ACC did not seek feedback from the pilots. He described company communication as "awful." Getting information passed down from the office to dispatch to captains to first officers was difficult. He never knew what the office was up to.

He sometimes called dispatch as an FO if the captain wanted to conduct the walk around inspection. He found them helpful and nice. He believed that there was only one licensed dispatcher. He stated that if there were amendments to routing and approved nav aids they could use, the crews had to double check the route themselves to make sure they were legal to fly that route. He stated that would have been nice for them to know more about aviation.

He never saw the FAA in his training. When he flew Richmond to Cincinnati, he would occasionally see the FAA on the DHL ramp conducting spot checks in Cincinnati, but he had never been spot checked himself by the FAA.

In his training class, everyone had passed. He had not heard of anyone else failing a checkride aside from the rumor about Jonathan.

If they had a maintenance discrepancy they had mechanics at their bases. He stated that these mechanics, especially the one at CRW, were knowledgeable and helpful. If the crew had any question, big or small, the mechanic would try to get an answer or get it fixed in time for the next flight.

He had never seen anyone terminated during his time at ACC. He had heard that there were terminations before he started working at ACC but did not know why they were terminated.

The interview ended at 1312 EDT.

3.1 FAA Interviews

3.2 Interviewees: Paul Sweeney: Front Line Manager; Rexford White: ASI Ops; Timothy Spreen: ASI MX (initial interview)

Represented by: (waived)

Date: May 10, 2017

Location: MKE FSDO

Time: 0900 CDT

Present: Aaron McCarter – NTSB

Introductions and general discussion on the size of the operation. Consensus was that the operator was a “121 light”. They will be expanding in the future and if it goes through they will be adding an additional 11 airplanes give or take.

Utilizing the “new” SAS oversight guidelines was taking some getting used to. But everyone had been trained. It was based on the old ATOS and still had some of the elements but it now had the ability to quantify answers based on risks. The system was designed for quarterly scheduled surveillance. When asked for the records, they were completely open to it and I (NTSB) will get them from AVP the week of May 15th.

Mr. White (Rex) was currently out of currency with the Shorts and was therefore unable to conduct official training/oversight in the pilot seat however, he will be back in the “seat” by the end of June.

From a scheduling perspective, the operator (ACC) used to have operations here in MKE and it was easier and most cost effective to conduct flight oversight. Since the operator has changed its model with all flights being conducted at the dozen or so outstations, it had become more challenging to conduct surveillance. Time and cost was always a factor. However, they job shared between Operations and Maintenance when it came to normal manual and general surveillance activities.

They tried to go to at least 1 outstation a quarter- sometimes more. And they tried to combine as many stations as possible in a visit. When Tim (Spreen) conducted a maintenance inspection/surveillance, Rex will give him a list of items to inspect and vice versa.

No known issues currently (prior to accident) Before they got electronic Flight Bags (EFB) there were manual and revision issues on a regular bases. That issue had gone away for the most part.

They knew that pilot shortage is a problem. They stated that ACC can barely find pilots and its been a challenge for the company.

Tim had upwards of 17 certificates for oversight (MRO, 135, 145, etc.) Rex had 6 or 7 certificates. (135, Ag Operators etc.)

They knew the operations and can branch off of SAS and the normal risk values. If they had a gut instinct or see a cluster of events, they can add to the SAS.

Tim stated that from a maintenance standpoint they had a good relationship and ACC was open and “they don’t hide anything.” ACC had a good calibrated tool program, It was of spar parts, and a new engine/performance monitoring system. (Jet Care)

Rex: the operator had its own check airmen; 2 or 3 and he associated with the operator on a regular basis. Less time with the stations as stated before.

There were issues dealing with pilots who were permanently stationed all across the East, Midwest and PR. They rarely came home and it required scheduling, financing and time to go. Difficult from a scheduling standpoint and you had to balance the SAS and the economics of travelling. That’s why they relied on other inspectors from other regions in addition to each other.

Since the accident they were waiting to see what the NTSB has to say prior to augmenting or changing their oversight. Informed them that I would contact them after I discussed it with Bill English. Mentioned that we can’t tell them what to do and they acknowledged.

They had received no hotline calls or reported from pilots or mechanics directly to their office. Any report came from the CP or DOM directly. No line pilots or mechanics had reported any safety issues.

3.3 Interviewee: Rexford (Rex) White, FAA Principal Operations Inspector for ACC (follow-up interview)

Represented by: Mark Tomicich, FAA Office of Chief Counsel

Date: June 26, 2017

Location: Milwaukee Flight Standards District Office, Milwaukee, WI

Time: 1337 CDT

Present: Sathya Silva, Aaron McCarter – NTSB; Mark Landolt – FAA; Steven Altnau – Air Cargo Carriers; Alison Campbell - AAIB

During the interview, Mr. White stated the following:

He began his aviation career was a flight instructor. He flew Part 135 air charter; then flew with two Part 121 companies, Ozark and TWA. He was a pilot examiner. He joined the FAA as a POI in November of 1997. He has been POI on Air Cargo Carriers (ACC) since 2011.

His duties as POI included ensuring a safe operation and a compliant operation. He approved pilot training, operations manuals, pilot certification in the simulator and in the aircraft and conducted surveillance of the carrier.

New hire training to become a POI was called string training and it was conducted in at the FAA Academy in Oklahoma City. That was followed by an inhouse on-the-job training (OJT) which occurred at the office level. They tried to complete OJT training within the first year of hire. There was ongoing professionalism training online and in person. The in-person trainings occurred 2-3 times per fiscal year. The OJT program was a living program that inspectors used throughout their career; it never stopped. If he was expected to do a job he didn't have training in, he would then seek training in that specific job before conducting it.

White was POI for six Part 135 certificates. These range in size from single pilot/single aircraft to carriers who had over 20 turbo-jet carriers. He was also POI for a number of Part 91 corporate operators but could not recall or guess as to how many. surveillance he conducted around all of his operators was scheduled and based on risk as determined through SAS. In terms of size of the 135 certificates, he rated ACC in the middle to slightly above compared to all the Part 135 carriers he inspects.

He considered ACC to be a cooperative operator and had a good relationship with the company. They had a strong training program which is all conducted inhouse and they didn't outsource any training outside of the company. If White made a suggestion, ACC made the change without fail. There was an example regarding ACC's seat dependent training program where if an FO is close to upgrading to captain, they give that FO flight time in the left seat to become familiar with left seat duties Initially, ACC did not have this specific training provision documented in their program. White suggested it, and ACC accommodated the change.

When asked about what internal oversight programs ACC had, he stated that they only have a voluntary disclosure program (VSD) and do not have any formal safety programs. The POI can always look at anything they can see in the operation and were not limited to what was in their

checklist. ACC did not have an MOU to allow use of an ASAP program. He did not think that the absence of a safety program was associated with higher risk in the SAS program.

He had observed initial new hire ground training, captain upgrade ground and flight training. He had conducted check ride surveillance. The last time was last week in LaGuardia; he observed two, a check airman and a captain upgrade.

He had a very good relationship with the director of operations, Steve Altnau, the chief pilot, Luke McGrath, and the director of training, Matt [Mattison]. These were the people he interacted with at the company. White was the one who signed and approved manuals. The last time he approved a change to the manual was 2 weeks ago where he approved changes to the training program regarding the avionics upgrades in the Shorts 360s. This included a corresponding change to the minimum equipment list.

There were no manual revisions or training changes in the months prior to the accident that he could recall. When asked whether an accident changes risk in the SAS program, he said that he did not believe it does. He did not always have to use SAS as the tool. He could also rely on gut instinct. He had increased surveillance of ACC since the accident however. In the last few weeks, he had observed check airmen at LaGuardia and has conducted a captain upgrade check ride. In the week prior, he travelled to ACC's outstations in Danville and Warsaw and conducted ramp inspections of the aircraft and flight crew. He jumpseated on a flight on June 23, 2017

When asked about any issues he's observed with ACC – stated that last Friday during the check ride, the checkride was unsatisfactory because the pilot continued an unstabilized instrument approach. In this case, he felt the manuals and training addressed unstabilized approaches and considered this an individual pilot issue. When asked about cockpit observations leading up to the accident, he could not recall, but stated that information was retrievable.

He had observed CRM training but could not recall when the last time was, but the information was retrievable. ACC had about a dozen outstations and he wouldn't consider it challenging to oversee them. Sometimes, when he (POI) is unable to travel to an outstation to conduct his own first hand surveillance, he provides his PMI counterpart a checklist to conduct during a ramp check such as manual and NAV currency.

He had not received any phone call, email or in person complaints or comments from any ACC pilots.

He conducted line checks last Friday. Prior to the accident, he could not recall when the last time he conducted a line check was. The documentation of surveillance was done in SAS. Anything that was not surveillance is done in PTRS. He did monitor pass/fail ratio but did not recall what that ratio was for ACC.

He measured compliance of training using the training manual. He provided an example where he noticed multiple pilots making the same mistake on a circling approach. Pilots would brief the missed approach procedure of the instrument approach associated with the landing runway instead

of briefing the missed approach procedure of the circling approach. He conveyed this to ACC and ACC was sending out a memo to its pilots and check airmen.

The main systemic issue he's seen during ACC checkrides is that pilots were failing to notice an unstabilized approach and take corrective action and go around. He felt that pilots were rushing to get the check ride done for simulator scheduling purposes and would try to save approaches as opposed to conduct a go around which would take more time. He assessed ACC's training on unstabilized approaches and felt that it was addressed adequately in their SOPs. So for these cases where he sees pilots conduct unstabilized approaches, he considered those on an individual or case-by-case basis. He found ACC's training program to be effective. When he looked into their SOPs, he looked at whether the training program described what an unstable approach was and how they directed the appropriate response to an unstable approach. Both of these were adequate at ACC. When asked whether he would offer suggestions if he thought that there was a better way of doing something even though the operator's way met minimum requirements, he said that he would.

When it came to ACC's outstation model, he as POI was not aware of pilot experience levels or crew pairing issues; they didn't get into that. He only looked at whether the pilots were conducting a safe operation within their approved manuals. When asked about changes in risk assessment if an operator was operating aircraft along the same route, with the same crew pairing, he said that it was good to have the SOPs such that anybody in the company can fly with each other. He considered two pilots flying exclusively together to be beneficial as there was value in familiarity with the other person. He did not think there was a downside to having crews exclusively together.

He had no involvement in domicile or scheduling discussions. He got notified of flight schedule changes.

He had maintained currency in the Shorts aircraft since he became POI 6 or 7 years ago which involved attending initial and recurrent training in the aircraft (Part 61.58). His due month was normally December of each year, however his check ride was not scheduled this past December and it wasn't until May (following the date of the accident) that he got the funding and schedule time in the simulator to get current. If he was not current, there were limitations to the oversight he could provide. He could not conduct certification checks, recurrent check airmen qualification observations, recurrent pilot examiner operations. All other surveillance activity was not affected by a lack of currency. The FAA did not have any explicit guidance about POI's being current in the aircraft they oversee, so they can technically stay out of currency as long as the operator tolerated it.

He suggested for the investigation to get a sense of whether the accident occurred due to an individual pilot problem or a systemic problem within ACC.

The interview ended at 1435 CDT.

3.4 Interviewee: Paul J. Sweeney, Front Line Manager for ACC (follow-up interview)

Represented by: Mark Tomicich; FAA Office of Chief Counsel

Date: June 26, 2017

Location: Milwaukee Flight Standards District Office, Milwaukee, WI

Time: 1444 CDT

Present: Sathya Silva, Aaron McCarter – NTSB; Mark Landolt – FAA; Steven Altnau – Air Cargo Carriers; Alison Campbell - AAIB

During the interview, Mr. Sweeney stated the following:

He joined the Airforce at 18 years old and was with them for 9 years. He then worked for Cessna for 14 years as an avionics lead and maintenance supervisor. He's been with the FAA for 11 years and started as a principal avionics inspector. In March 2016, he became a front line manager (FLM). He is a private pilot and an A&P mechanic.

As an FLM, his duties included assigning workloads (i.e. operators) to his POIs and PMIs. He managed resources. He worked mostly in the office and interacted with carriers once in a while, but that was usually on a special occasion. He was in charge of 15 inspectors. The office was 2 inspectors short. He felt that they could use two more operations inspectors. He prioritized work to account for the shortfall in employees. Higher priority items included continued operational safety and investigations. Lower priority items included surveys for feedback such as the federal employee survey. They sometimes, but rarely, asked for help from headquarters. He usually got the help when requested. He did not recall ever asking for help with ACC.

He followed his inspectors using SAS formally. He had a quality review role within SAS. He also followed large investigations and made sure they were using their checklists within SAS. He had a good working relationship with staff and Rex White, the POI for ACC. His interactions with his inspectors were mostly administrative. He approved White's travel. The POI's typically went to each other when they had questions about the operation. He did not find he needs to get into the details of individual carrier operations.

When asked if White had ever come to him with any concerns or questions regarding his surveillance with ACC, he stated nothing that sticks out about anything. It was a very collaborative office.

He had not found that any government budget constraints has changed or limited their surveillance of ACC. Budget constraints were not very common. His biggest challenge was prioritizing tasks but surveillance does not get compromised as it always has high priority.

Inspectors got trained in SAS. He characterized White's proficiency in SAS to be above average as he had experience with Air Transport Oversight System (ATOS) prior. He found that those who had experience with ATOS perform better with SAS.

It was not common to transfer operations tasks to airworthiness or vice versa. He does not know of PMI's ever conducting checks for the POI's in terms of task sharing. They each could conduct their own ramp checks, but other tasks were assigned to operations or airworthiness specifically

by using the data collection tool (DCT) Several DCT's were assigned to specific airworthiness/operations inspectors.

He was in charge of 9 airworthiness inspectors and 6 operations inspectors. They were in charge of Part 145 repair stations as well and those would only get an airworthiness inspector assigned.

He considered ACC to be a large operation in terms of the number of aircraft and operations. When assessing workload, he used a complexity number assessment to work within the inspectors grade limitations.

Carriers were classified as "10 or more" carriers and "9 or less" carriers. These numbers refer to the number of people their aircraft held. This was designated on a carrier's certificate. With "10 or more" carriers, they had many more requirements to adhere by such as CASS, CAM and they had high priority work items and require formal programs. "9 or less" carriers have low to medium work items. If there were any safety concerns, they can add oversight to the "9 or less" carriers. Concerns could include high turnover of management, decrease in Part 119 personnel, financial difficulties, or increase in accident/incident rate.

They had not changed any formal oversight of ACC since the accident and will reassess when the accident report comes out.

For both "10 or more" and "9 or less" carriers there was no requirement for a formal safety system.

If the FAA increased surveillance above the minimum requirements, they must be able to justify the resources. He could not recall whether they had done that. Sometimes oversight increases if the carrier implemented a new technology system for example – however that increase in oversight was not risk based.

The pilot shortage was not uncommon and as long as carriers were flying within the regulations, the FAA did not become concerned about pilot shortage. Factors that were indicators of risk include loss of employees and inadequate staffing. They found these factors during surveillance and talk to the carrier all the time.

He assessed workload of his inspectors by talking to them in the office.

The interview ended at 1528 CDT.

4.1 Customer Interviews

4.2 Interviewee: Vanessa Ferrell - UPS WV Air Supervisor

Represented by: (waived)

Date: May 7, 2017

Location: Telecon

Time: 1540 EDT

Present: Aaron McCarter – NTSB

During the interview, Ms. Ferrell stated that the pilot Captain Alvarado would show her photographs and videos of his flights and approaches. He would place the iPad on the dash of the airplane and record video of his flights as he came out of the clouds or during a snow event. She described it as snow flakes coming into the windshield or clouds then breaking out. This was probably 3 or 4 months ago.

She stated he was a good guy. Friendly and likes to joke around. Ms. Ho was very quiet and very professional. She did not hear any complaints from or about either of them. They got along well with the drivers (UPS Vans)

Not long ago (she could not recall a time) she saw him approach the runway 23. He banked hard right on the national guard side of the airport and landed. It was an “unusual” maneuver she thought.

On another day (sometime last month/unsure) Captain Alvarado came up to her after the flight and asked her if she had seen his approach. She stated he was excited and told her he almost brought it “straight nose down.”

5.0 Eyewitness Interview

5.1 Interviewee: Al Emch – Eye Witness/Attorney and Pilot

Represented by: (waived)

Date: May 12, 2017

Location: Telecon

Time: 1130 EDT

Present: Aaron McCarter – NTSB

He provided his name and contact number to the NTSB and wished to give an eyewitness statement. This is a memorandum of conversation.

During the telecon, he stated that he was a local attorney and pilot, and a retired lieutenant colonel who used to fly C-130's out of Yeager Airport. He retired in 1993. He lives a couple of miles west of the airport. On the morning of the accident, he was departing (driving) out of his development and heading into work.

As he drove down the hill of his development, near the bend in the road, he noticed an aircraft hugging the bottom of the clouds. The airplane appeared to be flying straight and level; it did not appear to be descending. The airplane was flying directly towards him on an easterly heading.

He stopped his vehicle to watch the airplane. He saw the shadow of the airplane perfectly as it was “just grazing the bottom of the cloud or fog deck.” The landing lights were on; “It was a beautiful sight.”

The airplane passed directly overhead as it flew towards the airport. With his experience with the approaches at the airport, he thought the airplane was on the VOR-Alpha approach.

When he got to the office and heard the news of the accident, he realized that it was the accident airplane he was watching.