

Factual Report – Attachment 1
Interview Summaries

OPERATIONAL FACTORS

CEN17MA183

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1.0 RECORD OF CONVERSATION - Jonathan Berges (Chief Pilot, Trans-Pacific Jets)

By:

Adam Gerhardt

Air Safety Investigator

General Aviation Accident Investigation Division, AS-20

Date: 5/18/2017

Person Contacted: Jonathan Berges (Chief Pilot, Trans-Pacific Jets)

NTSB Accident Number: CEN17FA183

Narrative:

The following is a summary of a conversation that occurred with Mr. Jonathan Berges, the Chief Pilot of Trans-Pacific Jets:

- Mr. Berges was hired in August 2016 to be the Chief Pilot.
- Mr. Berges reported that he never flew with either accident pilot and he did not hold a Learjet 35 type rating.
- This was Mr. Berges's first management pilot role in his career. He had not served as a chief pilot before being hired into this position.
- Mr. Berges provided background information, to the best of his knowledge, about the history of Trans-Pacific Jets:
 - The company was formerly known as Sunquest Executive Aviation and is now known as Trans-Pacific Jets. Further information will be provided describing this change.
 - Mr. Berges reported that the charter rating/ auditor company ARG/ US has suspended their "Gold Rating" status due to the accident.
 - The operator gains business primarily through a broker system. Some brokers require at least a "gold rating" to be eligible for a passenger contract.
 - Currently, no original "Sunquest pilots" still fly for Trans-Pacific, neither accident pilot worked for Sunquest and both were hired after the operator was doing business as Trans-Pacific jets.
 - The company does not have their own maintenance technician workforce. The maintenance work was contracted out to a variety of companies. The company employees one individual in a "maintenance coordinator" or Director of Maintenance role.
 - The operator uses CAE in Dallas, TX for Learjet 35 type rating training.
 - The operator had 5 active aircraft in total (including the accident airplane) and 9 active pilots (including the accident pilots). No airplane was approved to fly single-pilot.
- Mr. Berges reported that the accident airplane would "float around" the country and would meet the demand of new flying contracts.
- Mr. Berges reported that the General Operations Manual (GOM) did not require repositioning flights to be conducted under 14 CFR Part 135 operations, therefore, he believed the accident flight was a Part 91 flight.
- Mr. Berges was asked multiple questions about the captain of the accident flight:
 - He was "based" in Salt Lake City, UT.
 - Mr. Berges did not know when the captain joined the operator, but it was before he was hired as the chief pilot (August, 2016)
 - Mr. Berges reported that he believed the captain "came with the airplane." Which was in reference to the accident airplane (Learjet 35A).
 - Mr. Berges reported that the owners of the accident airplane lived in Salt Lake City, UT, as did the captain.
- Mr. Berges was asked multiple questions about the first officer of the accident flight:
 - Mr. Berges reported that the first officer was hired in August 2016 and they attended the initial company indoctrination training together in Honolulu, HI since they both were hired in the same month. The training had 4 total pilots in attendance (including Mr. Berges and the accident first officer). In addition, the FAA principle operations inspector, Michael Hoffman, Van Nuys, CA, FSDO, audited the training course in-person.

- Mr. Berges reported that the first officer “struggled to get through training at CAE.” He had to be approved for a few extra days of training to complete his second in command Learjet 35 type rating.
- Mr. Berges reported that the first officer had a very positive attitude, but he was also a “low time pilot.”
- Mr. Berges reported that in November 2016, the first officer was designated in the active flying status first officer role.
- Mr. Berges reported that it was common for the accident crew to fly together and TEB was a normal airport to operate to and from.
- Mr. Berges reported that captains had to “coach him” to “get him up to speed.”
- Mr. Berges reported that the GOM “rates” new-hire first officers. The following describes the rating system the company uses:
 - SIC – 0 – prohibited from flying the airplane in any operation. Must serve as pilot not flying/ pilot monitoring.
 - SIC- 1 – permitted to fly the airplane, but with management pilots only and without passengers.
 - SIC – 2 – permitted to fly positioning flights with any captain, but without passengers.
 - SIC – 3 – permitted to fly any flight, with any captain.
 - SIC – 4 – permitted to fly from the left seat.
 - SIC – 5 – able to perform as pilot in command, but they currently do not hold a captain position.
- The first officer was designated as a SIC-0.
- The exact details of this rating system will be provided to the NTSB. He was not permitted to serve as pilot flying under any operation type.
- Mr. Berges reported that the electronic flight bag (EFB) program was submitted for approval in April 2016 and received approval in August 2016.
- Mr. Berges reported that the operator is currently in a “transition period” with the Van Nuys FSDO to Honolulu FSDO.
- Mr. Berges reported that it had been “incredibly difficult” to submit changes for their operation to the Van Nuys FSDO. He reported that for an Ops Specs/ GOM change, it could take 3 to 4 months to just get a preliminary review.
- Mr. Berges reported that he believed that the regulatory control may remain in Van Nuys FSDO. Mr. Berges was unsure exactly where and what the “oversight transition” involves.

Contact Information:

Jonathan Berges (Chief Pilot, Trans-Pacific Jets)

Jonathan.berges@gmail.com

(c) 858-356-8061

2694 Mobley St.

San Diego, CA 92123

Trans-Pacific Jets (Main Headquarter Office)

9595 Nakolo

Honolulu, HI 96819

Trans-Pacific Jets – Van Nuys Office (Located within Castle & Cooke FBO)
7415 Hayven Hurst
Van Nuys, CA 91406

2.0 Interviewee: Captain's Wife

Representative: Ken Cannon, Friend
Time/Date: 1200edt, May 27, 2017
Location: Telephone interview
Interviewer: William Bramble, NTSB

During the interview, the captain's wife stated the following:

She and the captain had been married for 26 years. They lived together in Salt Lake City, Utah. She was not a pilot.

The captain had attended Utah Valley State College and Trenton University and he had obtained a B.S. degree in applied science and technology.

The captain had begun taking flying lessons at a flight school in North Carolina in the 1990s while he was stationed there and serving in the U.S. Army. He loved everything about flying.

She could not recall the details of his aviation employment history. Prior to working for Trans-Pacific, he had worked for a company in Salt Lake City called Seven Jets. She was not sure how long he had worked for them. He did not have any other employers while he was working for Trans-Pacific. Asked whether the captain had worked for the owners of the accident airplane previously, she said that she was not sure. She knew he had flown them in the airplane before and that Trans-Pacific was managing their airplane.

She said the captain got along well with his colleagues but did not socialize much with them outside work. The first officer who served on the accident flight had been the captain's first officer for a few weeks. Asked whether the captain had said anything about the first officer or discussed his flying skills, she said she could not recall him saying anything except that the first officer was a nice guy.

She was not aware of his receiving any special awards or commendations or being subject to any disciplinary action for his performance as a pilot, and she was unaware of his having any recent incidents or accidents in aviation or outside of aviation in his personal life. She was also unaware of his having experienced any prior abnormal, unusual, or emergency situations in aviation.

She said that in the 12 months before the accident, the captain had not experienced any significant changes in his personal life or financial situation. He had no significant upcoming personal plans. In the 12 months before the accident, he had also not experienced any significant changes in his health except for an episode of the flu he had experienced about a month before

the accident from which he still had a lingering cough. She stated that, to her knowledge, he was not suffering from any illnesses at the time of the accident.

The captain normally went to bed about 1930 or 2000 and woke about 0630 because his wife left for work very early. He did not have difficulty sleeping.

Asked how many hours of sleep per night the captain needed per night to feel rested when he was off duty for an extended period and free from any work responsibilities, she said it depended. He needed anywhere from 6 to 10 hours. Asked whether it was typically 8 hours, she said yes; he maintained a normal sleep schedule. He occasionally snored but not loud or routinely. He did not have difficulty falling asleep at night or remaining awake in the day and he did not have any sleep disorders, as far as she knew.

The captain's leisure activities included reading, watching the news, and using his computer. There had been no significant changes in his personal habits in the last 12 months.

The captain's wife was asked about his normal work schedule and days off. She said he had his phone with him "24-7", and did not appear to have fixed days off. The company called him whenever they had a flight. Asked how he felt about his work schedule, she said he sometimes found it "a bit taxing" but did not complain to her about being unable to handle it. Asked if his work schedule had recently changed she said it had changed because the company had lost a couple of pilots and was tight on personnel. The captain had been flying a bit more than usual.

The captain left home on the accident trip May 3. He had been at home for 5 days before leaving on the trip. Asked about his last vacation or extended time off, she said they had not taken a vacation in years because the captain's work schedule had been so unpredictable. She had a copy of an email from the owner of the company apologizing for flying the pilots too much. The email stated that the company was making some changes and hiring a couple new pilots to help with the workload.

The captain's wife said that she spoke with the captain daily in the days before the accident and he texted her before each takeoff and after each landing. She did not recall the details of their interactions Friday May 12 or Saturday May 13. Their discussions were unremarkable and unrelated to his work activities.

On Sunday, May 14, the captain called her between about 1830 and 1900mdt, which was typical. He said he had done laundry at the hotel and eaten dinner. He was back in his room. He had to be at the airport at 0630 the next morning and he was about to go to sleep. That was the last time they spoke. At 0915mdt on Monday, May 15, he sent her a text message stating that he had landed in Philadelphia. That was their last communication. Asked about the time of any earlier texts or calls, she said she had not saved any of his earlier texts and she routinely cleared her call log, so she could not provide the times.

Asked about the captain's recent mood, she said, "As far as I know he was incredibly happy because he was flying and getting jet time." He had previously flown jets for a company called D&D aviation, and that was where he had first been typed on the Lear.

The captain's wife said that the captain was generally healthy. He had no medical conditions. She could not recall him going to the doctor for anything except a recent cold. He did not have a personal physician, so he had visited an Instacare Clinic at the University of Utah Hospital in Salt Lake City for that. The cold was identified as influenza B-2. This medical visit occurred a couple weeks before the accident. Asked whether the captain had fully recovered from the flu by the time of the accident, she said yes. He had taken 7 days off from work because he was taking medications prescribed to him by the clinic that were contraindicated for flying. While at the clinic, he had texted to the owner of Trans-Pacific requesting time off and the owner had texted back that it was okay. When the captain went back to work he still had a cough but he was no longer taking the medication.

The captain was not taking prescription medications other than what he was prescribed while recovering from the flu. Asked whether, in the 72 hours before the accident, the captain had taken any medications, either prescription or non-prescription that might have affected his performance, she said as far as she knew he had not. The only thing he took regularly was a probiotic supplement (kyo-dophilus) before each meal. The captain did not drink alcohol or smoke and he did not drink coffee or tea.

Asked whether the captain liked working for Trans-Pacific, she said he liked it as far as she knew. Asked if he had any close friends or colleagues at work she said no, but he got along with everybody. Asked how well he knew the copilot on the accident flight, she said he had only said that the copilot was a nice guy. They had done some sightseeing together in New York City once during a layover. The copilot was from the area and had been able to show the captain around. Asked how the captain felt about company training, she said he had not commented to her about it. Asked how he felt about company management, she said he did not talk about that either. Asked whether he had complained about any problems at work, she said not really. Asked if he had had any safety related concerns about the company, she said he had not mentioned any. She added that if he had had any concerns, he likely would have kept them to himself to avoid worrying her.

Asked whether the captain maintained a logbook of his flight experience, she said he did. He had it with him on the trip. She believed it was a paper logbook. She did not know if he had any electronic records of his flight experience.

Asked whether there was anything she could think of that could be relevant to the investigation that she had not been specifically asked about, she said that after the accident, neither she nor the copilot's family were contacted by Trans-Pacific and she had learned about the accident on the news about 1630 or 1700mdt. As of the date of the interview, the company had still not initiated any contact with her. The only time she had spoken with someone from the company was when she called the owner on the day of the accident and when she called him on May 17 to obtain contact information for the copilot's family. The owner had not provided any additional information during either of those calls.

Asked whether there was anyone else she thought investigators should interview, she suggested Mr. Diederick Vandervelde, who was a passenger on the captain's previous flight from BED to

PHL. Mr. Vandervelde called her after the accident and said his flight with the captain had been uneventful. He told her the flight crew was upbeat, happy, and in good spirits. They brought them drinks and they were very accommodating despite the passengers' several pieces of luggage and golf clubs. Mr. Diederick and the other passenger gave each of the pilots a hundred-dollar tip. The copilot's mother later confirmed that the flight crew had received these tips because the copilot had told her about it before the accident.

The interview concluded at 1320edt.

The Captain's wife subsequently provided investigators the following additional information by email.

She forwarded a copy of an email from Ryan Frost to Trans-Pacific Jets pilots, including Mr. Ramsey, dated May 8, 2017. It was titled "Company Update" and it discussed pilot scheduling and staffing changes.

She provided investigators a copy of a Trans-Pacific Jets flight release for the accident trip indicating that the pilots were scheduled to land at TEB and did not select that airport themselves.

She recalled overhearing a speakerphone conversation between her husband and Mr. Alino on or around March 12, 2017, during which Mr. Alino said he refused to fly with Bill Wickens because Mr. Wickens was very rude and had told him during their last flight, "Alino you have no business flying a jet." Mr. Alino was upset by this and told the captain he was going to call in sick so he would not have to fly with Mr. Wickens. Mr. Alino did call in sick and Mr. Frost called another pilot, Paul Parthus, who traveled to New Jersey to meet Mr. Wickens and operate the scheduled flight. Mr. Parthus was no longer employed by Trans-Pacific Jets, but Mr. Wickens was still with the company. The captain's wife did not know whether Mr. Frost was aware of Mr. Alino's reported shortcomings or had taken any action if he was aware.

The captain's wife recalled overhearing another speakerphone conversation between Mr. Ramsey and a Trans-Pacific Jets pilot named Michael Farb. Mr. Farb told Mr. Ramsey he had experienced a generator fire during takeoff from a California airport, either LAX or Van Nuys, and he had declared an emergency landing as a result. Mr. Farb expressed frustration that the company's chief of maintenance, nicknamed "Fat Albert," had signed off on the plane after a maintenance check, per Mr. Frost's instructions, despite a mechanic's statement that there was a risk of fire or malfunction. Mr. Farb was terminated soon after this event and attributed his termination to Mr. Frost's doubts over the appropriateness of his decision to declare an emergency landing. Mr. Farb had since taken a job with an air medical company based in Albuquerque, NM.

The captain's wife also told investigators that Ryan Frost would email flight releases to the captain's cell phone late at night or very early in the morning and wake him up. She said the captain had no trouble falling back asleep after receiving these messages but she said that it was an annoyance.

3.0 RECORD OF CONVERSATION - Michael Sullivan (via telephone)

By:

David Lawrence

Aviation Safety Investigator

Operational Factors Division, AS-30

Date: 6/7/2017

Person Contacted: Michael Sullivan (via telephone)

NTSB Accident Number: CEN17FA183

Narrative:¹

The following is a summary of a conversation that occurred with Michael Sullivan:

He had a conference in LAS and had to fly to RNO then continue to PHL. He brokered the flight through Fly Victor. The flight was LAS then to RNO with a 3-hour stop, and then they were supposed to fly RNO to Kansas City for a fuel stop to PHL, but instead stopped in Denver. He did not know why they changed the fuel stop, perhaps due to cheaper gas in Denver.

He said there were several things strange to him about the charter. The first was that the pilots stated they were pushing their duty time limits, and one of the pilots made a comment that delaying their departure to 3:30pm would be getting close to their maximum hours on duty, but he could play around with the logs to keep them legal.

When he read about the accident, he was shocked and started thinking about the charter he had. He texted the broker and asked if it was the same airplane involved in the accident that he had been on. The broker said TransPacific was not an Argus gold, and so they would not have put him with that operator. He had the itinerary that said TransPacific, and both pilots had TransPacific uniforms. After the accident, he checked online and saw that TransPacific was not Argus gold.

He also noticed that TransPacific were registered in HNL, but their offices were in VNY. Their address in VNY was also near to TransExec, a different charter company. He also noticed that their VNY address listed them as Sunquest Aviation, which also listed them as being involved in a crash back in 2007. He thought perhaps TransPacific had approached the broker and may have passed themselves off as TransExec.

His theory was that someone may have been operating with an older certificate. The company's website listed them as Argus gold, but that wasn't the case. Their website also had a list of airplanes as inventory for TransPacific, but several of those airplanes were actually part of the TranExec fleet.

¹ Mr. Sullivan was provided an opportunity to review this summary of the conversation and concurred with its contents on June 14, 2017 via email.

He looked for corporate filings for TransPacific in California but could not find any listings.

He provided the names of the two pilots on his charter, but they were not the two TEB accident pilots. The airplane was the accident airplane. He said that both pilots were professional aside from “playing with the logs” comment. He did not see them on their cell phones and did not feel they were being pressured to fly. He saw them do their walkaround, observed them during the stop in Denver but did not see them during the fueling process. When asked about the pilot’s comments about the logs, he said the pilot seemed comfortable with his decision to doctor the logs if necessary. He did find it odd that they flew into Denver since it was not an easy airport to fly into for smaller airplanes.

He said the condition of the accident airplane was “decent” and looked like it been kept in good shape. He was supposed to fly on a larger Lear, but was told it had been sold and they took the smaller one. He did not go to the cockpit during his charter flights.

He said the brokering of charter flights was a new model adapting quickly in the industry to maximize utilization of airplanes being flown on empty legs. This helped operators cover operating costs of the airplanes. Customers could call or go online to various brokers like Fly Victor or PrivateFly.com or FlyEasy.com, and their charter would be put in a pool that showed aircraft availability to cover those flights with available inventory. Using these websites, a customer could also check the inventory and see what was available. He used the Fly Victor one time by phone, and then just started texting with them when he needed a charter. He noted that Fly Victor advertised on their website that they displayed each operating certificate of the charter companies they used, but could not find TransPacific’s.

He asked the broker about TransPacific, and was told that was not the company they chartered for him, even though he had the paperwork to show it was TransPacific. He was told they booked him on TransExec.

He also reviewed the company registration for the website, and for TransPacific it was a public registration. He said he would provide the records he had from the charter to the NTSB.

4.0 RECORD OF CONVERSATION - Ricardo Villela, Challenger 300 Co-pilot

By:

David Lawrence

Aviation Safety Investigator

Operational Factors Division, AS-30

Date: 6/7/2017

Person Contacted: Ricardo Villela, Challenger 300 Co-pilot (via telephone)

NTSB Accident Number: CEN17FA183

Narrative:

The following is a summary of a conversation that occurred with Mr. Villela;²

They were flying from FLL to TEB in a Challenger 300 which was a privately-owned airplane based in Brazil under Part 91. They were flying with their boss and friends to the New York area. They were cleared for the ILS06 approach with a circle to land on runway 01. It was very windy and turbulent that day, but the weather was not unusual. They flew to New York about once each year. The circle to land approach at TEB is different from what they were used to in Brazil since there they rarely had runways that were that offset. They were typically just circling to the opposite threshold. They had found an approach briefing on the internet for TEB that was very helpful. He said smaller airports in Brazil usually had an RNAV to runways to avoid circling, but not at TEB. They have done several circling approaches during various training sessions at FlightSafety, CAE and Bombardier training facilities.

Coming toward TEB, they briefed their circle to land procedure. The procedure they had was to start the circling from TORBY and go around the Giant's stadium to line up with runway 01. They knew it was windy and ATC liked to talk fast in the New York area. The New York area was also very busy with lots of restrictions regarding airspace, air traffic management, etc, so they briefed early and paid attention during the approach. He believed after they started the circling maneuver, they got stabilized for 01 at about 500 to 600 feet, and when they landed it was a normal landing.

Once they landed, they rolled down the runway and exited at the Bravo intersection. They did a 180 degree turn to join Lima and were facing the final approach for 01. It was a normal day, and to his right he saw the Lear leaving the ILS 06 for 01 to start the circle, and it caught his attention because they were at a steep bank angle and he could see the belly. He thought it looked like a fighter jet maneuver. They thought the Lear pilots may have been local to the area and knew the approach well since they were coming in fast and aggressively maneuvered. He flew business his whole career and knew the Lear was not carrying passengers because nobody would fly like that with passengers onboard, they also went back to wings level, it was very fast at a high turn.

He looked away in his cockpit then, when he looked up, the airplane was wobbling, pitching up and down and sideways then they saw the Lear bank. He was not sure if it was left or right turn, because of the clarity of the sky on the background they could only see the silhouette, but it seemed to the left, probably because that was what they were expecting to see. It was a sharp turn and he could see the top or bottom of airplane, and it went nose down. They had been keeping an eye on the Lear since they started the procedure, and it looked like they came in too close to the airport and had to do sharp turns. After the Lear left the localizer to the final for 01, they had a strong tailwind, probably cutting power back for ground speed. It looked like the Lear may have stalled.

He said they probably had the same tailwind as the Lear, but it was not as bad as the Lear had since their turn was only about 30 degrees right from TORBY and the wind was more at their

² Mr. Villela was provided a draft summary on June 7, 2017 via email to review for the narrative he provided for accuracy, and his response and corrections were received June 7, 2017 and are incorporated in this final summary.

sides during the approach. Since the Lear was so close to the airport, the Lear's tail was facing the wind more and they had more of a tailwind. He said they did not feel the tailwinds were that bad from where they turned, even though it was turbulent.

Even though it may be a common operation in TEB, the circling approach into TEB was unusual for them. ATC (TWR) told them to turn at TORBY, but it was in their procedures for the circle to land to 01. When they would fly to TEB, they would typically fly an approach to runway 06 or 19. The briefing card they used was a good tool for them.

He did not know exactly how far behind the Lear was behind them. When they were in New York airspace control, they heard the Lear right behind them. TEB tower told them to expedite clearing the runway when they landed on 01. There was a Gulfstream that took off behind them, and then he saw the Lear on the approach. There were no unusual radio transmissions from Lear, and their voices sounded at ease. There was nothing different, and it was just a normal day. The Lear pilots did not appear nervous on the radio. There were no other airplanes voicing any concerns that day. It was a nice day with a high workload but not anything special.

5.0 Interviewee: Rosario Santos Lim, First Officer's Mother

Representative: Robert Weiner, Esq.
Time/Date: 1030edt, June 30, 2017
Location: Telephone Interview
Interviewers: William Bramble and David Lawrence, NTSB

During the interview, the first officer's mother stated the following:

She was not a pilot. She was a registered nurse. She was the mother of the first officer, Jeffrey Alino. Asked whether Mr. Alino resided with her, she said that he came and went and did not stay with her permanently. A month before the accident he was in Los Angeles and the year before he lived in Texas. He did not have a long-term lease anywhere. He was residing with her at the time of the accident. The first officer did not have any children.

Asked about the first officer's highest level of education, she said that he had attended Union State College for one year. He had also attended a culinary arts institute. Asked how the first officer became involved in aviation, she said it had long been his dream to become a pilot. He had an astigmatism which affected his eyesight, but he could fly as long as his vision was correctable with glasses. He loved flying.

The first officer worked for Trans-Pacific Jets and did not hold any other forms of employment at the time of the accident. His mother said that he got along with his colleagues and he liked the captain, William Ramsey, very much. She was not sure how much they socialized outside of work, but they were very familiar with one another and Mr. Ramsey was his flying partner. They flew together frequently. Asked if the first officer had colleagues he did not get along with, she said she did not know.

The first officer's mother said she was unaware of any awards or commendations the first officer might have received for his professional performance in aviation. She said that the first officer had volunteered in the Civil Air Patrol in New York and Texas. His mother stated that she was also unaware of his being subject to any disciplinary action for his performance as a pilot.

Asked whether the first officer had been involved in any prior incidents or accidents in aviation, she said no, but when he was a student pilot he had experienced an emergency landing with an instructor that had not resulted in any injuries. The first officer had not been involved in any recent incidents or accidents in his personal life outside of aviation. Aside from the emergency landing, he had not encountered any prior emergency situations in aviation.

In the 12 months before the accident, the first officer had not experienced any major changes in his financial situation or personal life.

The pilot typically woke around 0800 or 0900. She was not sure when he typically went to sleep because he had been on his own until recently and he had his own room. She did not know how many hours of sleep he needed to feel rested or whether he snored in his sleep. She said that he did not have difficulty falling asleep at night or remaining awake in the day. He was always awake and lively. She did not think that he had any sleep disorders.

She was unaware of the first officer's leisure activities. He went out with his friends. He had only been staying at her home for a few days.

Asked when he began working for Trans-Pacific Jets, she said she was not sure. She thought his contract was over soon. He was very eager to go to a commercial airline.

The first officer had been renting a room in Los Angeles. Asked whether he had moved back to New Jersey shortly before the accident, she said she was not sure. Asked whether he was still renting a room in Los Angeles, she said she was not sure. Asked whether he had his own room at home, she said yes.

She thought there had been no significant recent changes in the pilot's personal habits, such as sleeping, eating or leisure activities.

She was unfamiliar with his normal work schedule. She was uncertain about his last vacation or extended time off.

Asked to describe what she knew about the pilot's activities in the 72 hours before the accident, she said she could not remember if he had slept at home Friday night, May 12. On Saturday night, May 13, he had slept at home. She was unsure of his activities because she was at work from 0800 on Saturday until 0200 on Sunday. He called her at work at 0030 on Sunday to ask when she was coming home. She came home and slept after she got off work. When she left the house at 1000 to attend church the first officer was still sleeping. While she was out, the first officer went out to buy groceries for a Mother's Day gathering of family members at her house. That evening the first officer told her that he was going to sleep early because he had an early

flight the next morning. She did not know what time he went to sleep Sunday evening at her house.

The first officer was already gone when she awoke at 0630 on Monday morning. He called her at 1130 and said he was in Philadelphia and was coming home. He had his passengers the Vanderveldes. That was the only communication she had received from him on the day of the accident. Asked whether the first officer had said anything to her about how the trip was going, she said he was excited. Asked whether he had received a tip that day, she said yes. He was really happy because he had received a tip. He was excited about that.

Asked whether the first officer had any significant upcoming plans in his personal life, she said not that she knew of. He was just waiting for his 1,500 hours of flight experience so he could fly for an airline.

The first officer's mother said that the first officer's general health was okay. It was normal. Occasionally he had back pain and visited a chiropractor. She was unaware of any significant upcoming plans in the first officer's personal life other than a family vacation in August.

Asked whether the first officer had any medical conditions, she said none that she knew about. Asked whether he had any minor illnesses, such as a cold or the flu, at the time of the accident, she said not that she knew about. She did not know if the first officer had a personal physician other than his aviation medical examiner. She was also unaware if there had been any significant changes in the first officer's health in the previous 12 months. She did not think the first officer was on any prescription medication. She did not think that, in the 72 hours before the accident, the first officer had taken any medications, prescription or non-prescription, that might have affected his performance.

Asked whether the first officer drank alcohol she said only a little bit. He had told her he was allergic to alcohol. It gave him a reaction and made him red or something. He did not like drinking. She could not recall the last time she had seen him drink alcohol. Asked whether the first officer smoked or used tobacco products, she said he occasionally met friends at a tobacco place.

The first officer's mother was asked whether the first officer liked working for Trans-Pacific Jets and she replied that he had not said anything about it. He had mentioned that he wanted to finish his contract or stay another year but she was not sure about his plans. She knew he wanted to finish his 1,500 flight hours and he was close. The first officer had not mentioned how he felt about the company's training, management, nor had he mentioned having any problems at work. He had never expressed any safety-related concerns about the company.

The first officer had maintained a pilot logbook. She was not sure of its location.

Asked whether there was any other information she could provide that she had not specifically been asked about and was relevant to the accident investigation, she said she could not think of anything.

Asked to describe the first officer's previous job before he began working for Trans-Pacific, she said he had been working for Medflight Aviation. Asked why the first officer left Medflight, she said he was not getting enough flight hours there. Asked whether he had experienced any disciplinary issues at Medflight, she said no. A friend of his who was a captain at Medflight was asking him to come back. Asked whether the first officer commuted to Albuquerque to work at Medflight, she said no, he lived in New Mexico. Asked whether the first officer had voiced any concerns about Medflight when he was working for them, she no.

This concluded the interview.

6.0 Interviewee: Ronnie Franklin/Fountain, CAE Lear Instructor

Date/Time: July 10, 2017; 0940 CDT

Location: CAE Training Center - DFW

Present: David Lawrence, Bill Bramble, Jim Silliman– National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)³

Representative: Richard R. Shiarella, CAE Legal Counsel

During the interview, Mr. Franklin stated the following:

His name was Ronnie Gene Fountain, and he was 64 years old. He was the Lead Instructor for the Lear 31 program, and an instructor on the Lear 35. He had been in that position with CAE for a little over 4 years. His background included being born and raised in Dallas, and working in North Carolina flying in the NASCAR circuit for 20 years flying Lear 35's, 31's, Citation 650's, King Airs, Beechjets, and other different aircraft. He helped start up the Race Team Aviation Association (RTAA), represented 200 pilots in the NASCAR circuit for 10 years, and helped design specific departure procedures for NASCAR flights. He was a CFI prior to that, and had wanted to move back to Texas and took the job at CAE.

He held an ATP certificate with type ratings on the Lear jet, Beechjet, King Air, CA650 and CA500. He also had a CFI, but no medical certificate.

He had flown the Lear 35 with NASCAR out of Daytona Beach, and obtained his SIC rating from FlightSafety. He came to CAE in 1997 for his Lear PIC type rating. He had been in/out of Lear 35's throughout his career. His total time was over 10,000 hours, and had about 3,000 hours in the Lear 35. He last flew the Lear 35 about 8 years ago. There was no formal program at CAE to ride in Lear jets.

³ Ops group members from Lear and Trans-Pacific were unable to attend the interview.

His roles and responsibilities at CAE included instructor for the Lear, and he was responsible for keeping the records for training as an SFE (synthetic flight examiner), SFI (synthetic flight instructor) under EASA.

They trained Trans-Pacific pilots on the company's own SOPs and procedures. He would get familiar with each operator's procedures by reviewing their documents on the CAE website they had access to review prior to training. He did not know how many Trans-Pacific pilots he had trained, and did not know how often they came through CAE. To the best of his memory, their procedures were in line with Lear and CAE procedures.

The typical training footprint was up to each company, who would tell CAE how they wanted their pilots trained. For the FO, it was an R (recurrent) 5 training, including a total of 5 days training; 2 days in ground school and 2 days in the simulator. It would be unusual for an FO to come to training with prior Lear experience without an SIC type rating. This FO did have an SIC type rating in the Lear.

When he asked if he had the opportunity to review the FO's records prior to his training, he said he was given a sheet generated from their Gemini program that included information about the student, and would inform him of the student's experience level. For this FO, he noted he had about 100 hours in type, but did not remember the FO's total flight hours.

When asked to describe the FO's ability, he said the FO had a good attitude, but from an experience standpoint, he did not seem to be as experienced for someone with 100 hours in the airplane. When they were in the very first simulator session, he was not able to go through all the required preflight checks without coaching, and he did not know how to start the engines since he had not started them before, and had difficulty landing the airplane. To his understanding, this may have been the FO's first time in any flight simulator. He thought it could have been a bit intimidating for a low-time pilot who had never experienced this grade of training before. Asked whether the FO seemed attentive during training, he said yes, the FO had

a great attitude and he was digging in and trying to do everything he could do. He was the type of student Mr. Franklin did not mind training.

He did not recall the FO voicing any distractions or problems going on in his personal life, and he had a great attitude with the training. He chatted with the FO a little bit, and would ask him questions.

He could not remember if the FO went through training with another pilot or instructor. Typically, the pairing would depend on the 135 operator, and the other pilot may be another pilot or an instructor. He could not remember which it was for the FO.

The FO received additional training because Mr. Franklin simply could not recommend him for a check ride. Once they brought him up to standard, he could be recommended. When asked if that was unusual for a pilot with experience on the airplane to require additional training, he said yes, it was not normal

He said he made notes following the FO's training session, and he read through those notes, recounting that on his first day of simulator training the FO struggled with normal procedures, and for many checks he did not know how to perform or what to look for during the checks. He struggled with the preflight checks, taking an hour to complete what should have taken about 30 minutes. He also did not know how to start the engines because he had never started them before, and he crashed on his first takeoff in the simulator because he did not set up the flight director's properly. He forgot the pitot heat. His steep turns needed additional training, and he was not able to control his speed and altitude during his stall series. He also had difficulty with steep turns, and went inverted during the unusual attitude training. He could not complete most of the items in the syllabus for the simulator session. They returned to JFK to execute an ILS to 31R, and after two attempts and one crash on landing, he was put on a 5-mile final for a visual approach, that was completed after additional coaching. He recommended that the FO receive at least 2 additional training sessions to get him "up to speed" for an SIC check.

The recommendation went into the CAE computer, and he also spoke with his manager about the additional training. He did not have the FO again until the day before his check ride. He did the first simulator session, and then the final simulator session prior to his check ride (an S7).

During the S7 practice session, they went through all the maneuvers, homing in on any weaknesses he may have had during the training. On review of his other sessions, the record showed that he had improved in some areas and had difficulty in others. The training manager was responsible for contacting the company about any training problems with their pilots. He did not know if that occurred in this case.

The FO's training record contained a lot of "C" grades which indicated that the pilot was not proficient to the FAA and PTS standards. When asked if it was unusual for a pilot to be graded "C's" on all but one of his landings during training yet be graded proficient the day before a check ride, he said yes, but perhaps he became proficient the day before his S7, but they were not allowed to grade a C-P leading up to a type rating ride, which meant he became proficient during that session. When the FO came to him for his last S7, he showed proficiency, and he was signed off. His evaluation of the FO was based on the assumption that the FO was going for an SIC type rating.

When asked about the CRM struggles documented in the FO's records, he said that when someone was struggling like the FO was, humans get a tunnel vision where they are so concentrated on one element, the other elements are not being attended to, and that would cause the other things to not be proficient, and that was the case for the FO.

He talked to the FO about the CRM elements, but could not remember specifics of his conversation. He did remember talking about workload management and giving duties to pilot monitoring, or using the autopilot to help him. Him. On first simulator session, the FO was overwhelmed. He talked to the FO, and made notes about the simulator session for the next instructor. He did know who the next instructor was going to be, but the next instructor would have had access to the notes.

Asked if these training difficulties were unusual for a Lear pilot with as much experience as the FO had in the jet, he said it depended on the pilot's prior experience, and how much he had flown the airplane. According to his notes, the FO had never started the engines and had never gone through a pre-flight check. Asked whether the Lear was type certified for two pilots, Mr. Franklin said yes.

When asked how they trained CRM for SICs, he said it was the same as they did for PICs; communication and going through the process of evaluating a situation, making a recommendation, and acting on it. They also explained the duties of a pilot monitoring, but it was best shown when they were in training to experience it. The FO received a P on followership, which meant following through, working with the captain, and being prepared for a checklist.

He said the FO was not very assertive in the cockpit. Typically, when someone was confident, they would step right in. For this FO, he would wait and not be assertive.

When asked if the FO would have been able to question a captain's decision, he said yes. If he knew something was wrong he would have asked. On a scale of 1-10 for assertiveness, he would have graded the FO as a 3 or 4, and that was not necessarily unusual given the FO's position and experience level. The more experienced a pilot was, the more assertive they were likely to be.

The pilot had to be proficient during the S7 before proceeding to the check ride. When asked if passing an S7 ride prior to a check ride was based on the pilot's experience level, he said no, it was based on a snapshot of his performance during that training session.

CAE did train circle to land approaches, during the S15 session and the first simulator session. He was unable to give the FO a circling approach during his first simulator session but the FO did receive training on circling approaches on two occasions: during the S7 session prior to the one Mr. Franklin conducted with the FO and during the S7 Mr. Franklin conducted with the FO. During the S7 Mr. Franklin conducted, the FO did fine on circling approaches. The approach

they used for training and checking was the JFK VOR4L circle to 31R. The weather was always set to breakout at 50 feet above minimums.

When asked how they trained pilots to remain in protected airspace, he said he trained them to use the DME based upon the approach space that is available without hitting anything. When asked if he knew what protected airspace was, he said it was the space in which you would not hit anything, but was not sure how far out that went on a circle to land, but thought it might be about 2.5 miles. Protected airspace could be found on the approach plate using the minimums and visibilities.

They taught circle to land in the Lear using category D. It could be a category C, depending on the approach speed, but typically the approach speed was about 140 knots and they would use D. They were taught to execute the approach at flaps 20 and $V_{ref}+20$ until runway in sight and leaving MDA, then full flaps selected. Pilots were permitted to use the autopilot during the approach. Asked to clarify when the pilots would select full flaps, he said they would select full flaps when they felt they needed to start their descent from MDA to the runway, which would depend on how far out they were.

When asked if there was a typical altitude they trained a pilot to be stable by on an approach, he said at any altitude if the airplane became unstable during any part of the approach, you would execute a missed approach. There was no last altitude to be stable by. When asked if he knew what Trans-Pacific's stable approach criteria, he said he did not know at that time. Asked whether he had heard of a 1,000-foot stable approach gate, he said yes. When asked if CAE trained pilots on that, he said if circling minimums were below 1,000 feet configuration changes were allowable.

They did stall training in the simulator, but were not authorized to do accelerated stalls. When asked if he was aware of any stall vane limitation when flying in excess of 1g, he said he did not know of any. The stall warning system would warn the pilot, with the first indication being a flash of lights on the annunciator panel and a master caution light with the stick shaker. Then the pilot would get a stick pusher. Pilots were trained to recover at the first sign of a stall, whether it

was the light or the shaker. If the pilots did not get these warnings, they should recognize a stall from the buffeting of the aircraft itself.

The minimum autopilot altitude for the Lear was 200 feet.

If a client was being trained by himself during an R5 training session, the simulator session would last 3 hours. If he was paired with another client, it would be 4 hours long. Any additional required training would also last the same amount time.

Ground training documents would have been provided to the FO, including a simulator handout which explained each simulator session. It gave a synopsis of the procedures and callouts. That was CAE specific. Any differences would be discussed. They used the company procedures in the simulator.

Asked whether pilots were provided with systems or performance or maneuvers guides, he said they had a checklist that had a list of all those items, including an FMS guide. There were no other primary references materials provided for pilots going through recurrent upgrade training. For initial training, they would receive a 3-inch binder containing details on systems and other topics.

A missed approach [MAP] for a circling approach depended on where the missed approach started. The MAP procedure at JFK would be done depending on where the airplane was, and how he'd get to the MAP depended on where he was on the approach. For the JFK approach, if they were still on the approach, they would climb and fly over airport and then start the missed approach.

When asked if there were any areas of difficulty on the Lear with regards to landings and approaches as compared to other business jets, he said there was nothing in particular.

There was an AOA gauge on the airplane, which activated the stall warning. It was displayed on each side, in front of the pilot toward the top of the panel. When asked if he found the AOA

indicator useful, he said he was an “airspeed person.” He never used it, and he did not want to rely entirely on the AOA. It could be off, or not calibrated correctly. He did not know the threshold for stick shaker or pusher activation. He assumed a stick nudger and pusher were the same things.

There were two stall switches on the panel, and they would be off for taxi and turned on before takeoff. If they were not on, a red light on annunciator panel would indicate the switches were off. Asked whether the red light was conspicuous, he said, “Yes, you’d know it.”

He did not know anything about 22,500 altitude switches on the Lear.

When asked about the stall characteristics of the Lear, he said he only experienced a stall in the simulator, and never actually stalled the real airplane. In the simulator, at a stall, you would get the stick shaker, then you would recover since that was the first indication of the stall. Recovery was before there was instability. The recovery procedure was pull power, lower the nose, and recover. The target speed for climbing out would depend on the configuration, likely about 140 knots to avoid a secondary stall.

He said on the FO’s first takeoff he crashed. He stalled on the takeoff when he allowed the airplane to get too slow since he did not have the flight directors set the 9.5-degree initial pitch setting. He should have hit the go-around button prior to takeoff to set the flight directors. When he subsequently crashed on landing, it was because he exceeded an 11-degree bank and dragged a wing tip during the landing. Asked how the FO had improperly set the V-bars on the flight director, he said the FO did not bring the V-bars up to the proper level. They were brought to the proper level by hitting the go around button. Because the FO did not do this, the bars were at the horizon. Asked whether the FO simply had no pitch target and pitched too high, Mr. Franklin said yes. When asked how unusual it was to unintentionally stall an airplane on takeoff, he said he had seen it a couple of times but it was really unusual.

Based on his performance, he would say the FO was not prepared for the lessons. He was trying, and he had a great attitude. He was trying, but just was not getting there. His greatest strength

was his attitude, and he never gave up. His greatest areas in need of improvement were all those areas he was deficient in.

Asked whether the FO seemed familiar with the checklist items and related callouts, Mr. Franklin said yes, and he seemed to get more proficient throughout the process.

When asked if CAE used a pre-requisite form to determine a student's qualifications before starting the training, he said he had no idea if there was a form that described the pilot's past experience. The pilot would have gotten a simulator training requirements checklist and the FMS guide prior to recurrent training. They would also review any differences in the CAE callouts and the company callouts.

Circle approaches were flown at flaps 20, $V_{ref} + 30$, and they would use category D. The airspeed bugs were set with the green bug at the target speed of $V_{ref} + 30$. On final, it would be set to V_{ref} . $V_{ref} + 10$ would be the approach speed. There were two separate approach speeds for a circle approach.

At NASCAR, they had 127 airplanes. On Thursdays, they would leave to go to various venues. They had a problem with ATC in departing, and typically would sit with engines running waiting to depart since they clogged up the airspace leaving. He worked with ATC on a plan that helped lower departure times to save time and gas.

At NASCAR, he flew the Citation 500 and then the Beechjet. He flew single pilot for those. He had flown with a bunch of co-pilots.

When the FO left CAE training, he was qualified to fly right seat in the Lear, and other than being an SIC, there were no limitations from allowing him to fly the airplane. When called upon, he could fly the airplane, work with captain, communicate, and be a part of the crew.

When he flew as an SIC, he would do everything, from preflight checks to flying a leg or two. Catering. That was typical for the SIC work he did. An SIC would be expected to fly the airplane. He had heard of companies not allowing SICs to fly the airplane.

When he was an SIC, he would fly the airplane even with passengers onboard. As PIC, he would have his SIC fly with passengers onboard. When asked if he ever had a co-pilot working for him that he did not want to touch the airplane, he said yes, and he had to let them go after a few trips. If he had an SIC who he would not allow to fly the airplane, he would let him go.

He did not remember if the FO mentioned that he was new to the company. He had not heard of a company having different levels of SIC, and had not heard of any companies not allowing an SIC to fly.

The biggest thing about the CRM training was communication. It could include a whole range of things, from briefing the flight to the de-briefing. It helped the pilot and co-pilot to better themselves.

Regarding the FO's attitude, he said the FO knew that he was not proficient, but he kept digging, and improved along the process. He never faulted others, and recognized his own deficiencies. Asked whether that could have led to a lack of confidence for challenging the captain, he said, "Could be."

He did review his deficient areas. He was pleasantly surprised when he gave the FO his S7 ride prior to the check ride. The thing to consider was that CAE eventually gave FO the same amount of simulator sessions as a student would have received during an initial training. The first officer was in training for 11 days.

Asked to define the phrase "consolidation of learning" Mr. Franklin said "putting all the learning you've had together." Asked how important it was for a pilot reinforce skills learned in the simulator by flying the actual airplane, he said consolidation of learning was very important, and flying after training helped keep a pilot's skills up and scanning sharp. Asked whether it was

more important to learning for a pilot to fly the airplane or watch others fly the airplane, he said actual hands-on flying of the airplane was important to help learn how to fly the airplane.

He said most pilots would add 10 knots to the V_{ref} if it was windy or gusty.

He corrected himself from an earlier statement, and said a visual or circle approach should be flown at $V_{ref}+20$, not $V_{ref}+30$.

When asked if there were any additives due to wind and gusts, he said there was if it was windy, and they could add 5 knots or so if needed. There was no specific amount of additive for winds.

The approach speed climb was the best climb rate speed for a single engine climb, and the speed they would climb out on during a missed approach.

Asked whether the 3 simulator sessions in the R5 course included the check ride, he said, yes, the check ride for an R5 would be included in the last simulator session.

When asked if he would have hired the FO with his qualifications, he said yes, with his good attitude. When asked whether, if he later determined that the FO had a hard time flying the airplane, he would allow the FO to continue flying, he said it was hard to say. The FO had a good attitude, and seemed to learn from his mistakes and take criticism.

Based on the weather conditions known at the time of the accident, for the circling approach, he would likely have expected the FO to hand the airplane over to the Captain.

On the Lear 35, the tip tanks sat low to the ground, and in a crosswind landing in the simulator, landing with more than 11 degrees of bank would cause the tip to scrape on the runway.

The check ride at the end of the training was a stand-alone event. It was not like an EASA progressive check.

Interview concluded at 1142.

7.0 Interviewee: Paul Cooper, CAE Lear Instructor

Date/Time: July 10, 2017; 1300 CST

Location: CAE Training Center - DFW

Present: David Lawrence, Bill Bramble, Jim Silliman– National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)⁴

Representative: Richard R. Shiarella, CAE Legal Counsel

During the interview, Mr. Cooper stated the following:

His name was Paul Hayden Cooper, and he was 61 years old. He was Captain for Southwest Airlines, however he was out on medical with the airline. He was CAE instructor on the Lear 35. He also did right-seat work for CAE on the Lear 31 but did not teach ground school or the simulator on the Lear 31. He stated that he was an employee for CAE.

Asked to describe his aviation background, he said that he went on medical leave at Southwest in 2003, and he came to CAE in 2008. He had been with CAE for about 11 months, but was laid off “because of Obama administration” when the industry suffered losses in the corporate market. He was rehired by CAE in November 2015, and had been there ever since. His background with Southwest included working on the ramp and operations for Southwest while also flying as a C-130 loadmaster. He was hired back in June of 1988, and upgraded in 1994 and flew as a captain until 2003. He loved working at CAE and bringing his Part 121 experience to training. He held an ATP with type ratings on the B-737 and Lear, and did not have a current medical.

He had about 1,000 hours in the Lear 35 for Part 91 and 135, none as PIC. He was type rated when he came to CAE in 2008.

His roles and responsibilities at CAE included teaching the ground school and teaching in the simulator. He taught about 2 days in the simulator each week, and the rest of the time he taught ground school or conducted seat-support in training. He typically taught recurrent ground schools on Fridays and Saturdays. He was not familiar with Trans-Pacific, but did remember Sunquest. He did not remember either of the two accident pilots.

He taught the Sunquest SOPs, and would go through them via a briefing sheet and TCA [training center authorization] form prior to conducting training. Only a few of their clients who had a variance of what CAE taught. He did not remember if Sunquest procedures were in line with CAE’s.

The training footprint for a pilot that came to CAE already with a Lear type rating depended on their company, and whether or not it was a recurrent or initial training for the pilot.

⁴ Ops group members from Lear and Trans-Pacific were unable to attend the interview.

He had reviewed the captain's training records since the accident, and noted that he had a lot of problems prior to his conducting the training of the captain. The captain came to him for a practice check ride S7 after having been signed off by the previous instructor. He conducted the S7 check ride profile for the captain, and from the training records it appeared the captain had difficulties with steep turns, circling approaches, ILS's, unusual attitudes, procedure turns, ILS engine-outs, and takeoffs with an engine failure. The records indicated that the captain had 4 S7 training sessions prior to his training session with the captain. He said having that many S7 training sessions prior to an S8 check ride was "a rare occurrence." The captain had problems with the autopilot and flight director, according to the captain's records. He also had poor marks for CRM and SRM and problems with the VOR approach.

He did not have any memory of this captain. He knew of the captain's difficulties prior to his training based on the notes he reviewed in the CAE Gemini program. He did not talk to the prior instructors prior to conducting the training. The only thing unusual in the prior training was a C-P for the captain's unusual attitude recoveries, but it was trained to proficiency. He did not remember if he talked with the previous instructor. They do have a habit of communicating with other instructors, and would let the downline instructor know of any difficulties, but did not remember if he did that in this case. He did not remember seeing any notes, but just checked to see if he passed or failed prior to getting the student. There were occasions when there may be written notes, and he would prefer to talk to the instructor to ensure clarity.

When asked to describe the captain's piloting abilities, he said he did not recall him at all, only what he saw in the pilot's training record. He can remember more about the pilots that he had "downed," and did not recall those pilots that did not have difficulties.

Based on the captain's records, he had issues going through the training. When asked if he had ever seen a pilot go through 4 S-7's prior to an S-8, he said yes, he had a guy with a bunch of rides prior to the S-8, and that pilot had about 11,000 hours.

Communication with a company about a pilot's training difficulties was handled by his manager. He could voice his opinion to his manager, but it was the manager who ultimately made the recommendation to the company for additional training. If a pilot was up to standards, he would have no reason to have a memory of the individual. He never felt pressure to pass or "pencil-whip" a pilot to proficiency.

CAE did train circle to land approaches, and that was the JFK 4L, circle to 31R. The circle to land would be a part of the S-7, and it was a standard profile flown gear down, Vref+20, flaps 20 by the FAF. They taught it as a visual approach and not a timed approach, and if you saw the field, you called the field. He would have the captain turn over responsibility for keeping airspeed to the co-pilot so the captain could run the heading bug. He would have the students maintain visual reference outside with the airport environment, and select flaps 40 when descending out of MDA and squaring to the final approach. He briefed what the winds were in the simulator, which was usually a ten-knot crosswind. The crosswind helped them because it was coming from the right as they were circling to the left. He did not remember the captain's circle to land approach or how he performed. He did notice that the captain was graded "C" on circle to land approaches during his first two sim sessions, but did not know why.

He taught to fly the Lear using Category D speeds since it was within 3 knots of Category C speeds. He taught pilots to select flaps 40 “when landing assured” and visual to 31R, and that meant when they could make a stabilized approach from that position to avoid a EGPWS warning, avoiding diving to the runway. It meant they were not “outside the slot” and not diving to the runway. Anytime the pilot was not in a position to land, he briefed to execute a go-around.

He was not sure what Sunquest’s stable approach criteria was specifically, and when asked if a configuration change below 1,000 feet agl still be considered stable, he said they had to have the final configuration by 500 feet agl, which was also in the AFM. When shown Sunquest stabilized approach, he said a configuration change would still be considered stable if it was conducted above 500 feet agl. Sunquest’s stable approach criteria was the same as how CAE taught it.

He said protected airspace for a circling approach extended to 2.3 miles from the end of the runway, and it provided obstacle clearance for the airplane on the approach.

CAE trained train to recognize a stall, and did not train to stall the Lear. At first indication of stall, the pilot would receive a flashing red light and the stick shaker at same time. They trained three approaches to stalls; clean with the autopilot on, flaps 20 with a 20-degree banked turn, and an approach to stall in the full landing configuration with flaps 40, gear down and about 65% power. If they received the stick pusher, it would lower the nose at the red/yellow AOA indicator, which was 1 knot above the stall. They did not train for accelerated stalls, and he did not know why. They also did not train touch and go’s in the event of landing long.

He was not aware of any 1G limitation on the stall vane for the Lear, and never tried and accelerated stall in the simulator. The only thing he had tried outside the normal limitations of the airplane was a crosswind landing in excess of the demonstrated crosswind limit on landing, and that was just to see what the airplane was actually capable of. They did not teach that in training.

Asked whether a pilot who displayed questionable professionalism in the simulator would be considered a problem, he said any question of professionalism would be a huge red flag. Going back to his experience with the airlines, he said CRM had been “bred into me.” With his background, he was more critical if someone was not displaying good CRM and not following procedures. He said with poor CRM, “you’re shutting down your back-up.” He had a reputation of being a laid-back captain for Southwest. However, he would brief that if you saw something that was not your standards, bring it to his attention, especially for new pilots not familiar with the crew concept. Pilots needed to verbalize their concerns in the cockpit.

They had a free CRM course in the advanced standards classes. They really did not go beyond that in the regular recurrent training. He would recommend to pilots not familiar with the crew-concept to attend those free courses. He was not sure if the captain attended that course.

When asked if CAE trained to use the AOA indicator, he said that was an “oxymoron question” since it was actually a stall margin indicator, not an angle of attack indicator similar to what a fighter pilot would use to fly an airplane.

The threshold of stick activation for the shaker was 7 percent above stall. The pusher was 1 knot above stall. When asked about a stick nudger, he said it was the same as the pusher, just different terminology. They did not teach the 530 autopilot that in-depth.

The speeds for a circling approach was $V_{ref}+20$ knots, with the white bug on ref and red bug on target speed. They taught pilots to fly at $V_{ref}+10$ when descending for the approach on final, and they would use that for the go-around since they used V_2 . V_{ac} [approach climb] was not bugged.

V_{ref} was based on the weight of the airplane. On a circle approach at 13,000 pounds, the pilot would bug 119 for the white bug and the red bug at 139 knots, which was $V_{ref}+20$. The fast/slow indicator was predicated on where the red bug was set. They would not bug approach climb speed. Go-arounds were conducted with flaps 20, positive rate of climb gear up targeting ref speed plus ten, and a pitch up of at least 15 degrees. The flight directors would command 9.5 degrees, but that was for a single engine go-around, so pitching above that would give the pilot better performance for two engines. The pilots would then have to manually synch the flight directors to the new pitch. When they are flying the circle approach, they are bugging the airspeed to the approach, and for safety reasons they are flying above that speed for the approach. The final approach was flown at $V_{ref}+10$ to slow to V_{ref} by touchdown.

When asked if there were any wind additives on the approach in the Lear, he said yes, they would fly V_{ref} plus the steady state wind plus $\frac{1}{2}$ the gust factor. He would add $\frac{1}{2}$ the gust factor, and that information was in the AFM for gusty conditions, the pilot could refer to the AFM.

He said CAE did not train for the right seat pilot to fly a circle to the left; it was taught just the opposite. To keep the airport on the side of the flying pilot. In his opinion, the Lear was not a hard airplane to fly.

CAE did have free advanced courses for things like overwater flights, icing, and Jeppesen charts. These courses were more in-depth than the regular curriculum. These were optional courses a company could select for its pilots. The students could have requested CRM training since it was free training. Students coming in for a recurrent will not get a block of stand-alone CRM training unless the company required it.

When asked how the Part 135 pilots did in general during training, compared to 121 pilots, he said to him, the biggest issue were the new hire pilots who had previously been flying single-pilot and “want to do it all.”

Pilots who had been on the line for a while could get complacent, like with their pre-flights. He would hammer pilots on the limitations sections, like flight controls, and also with captains who did not know how to properly preflight the airplane.

He personally had not observed overly authoritarian captains. If anything, it was the young guys who had had to train as a captain who were not used to having to ask for things and had little to no crew concept. He also taught the pilot to verbally brief each approach. He would fail a pilot for not briefing an approach.

For SICs, he said that weak copilots tended to lack assertiveness. He tried to get them to take responsibility for the airplane. He tried to get the pilots to go-around if things did not look right, and take responsibility for their airplane. He talked about the SFO and Cali, Columbia accidents, and noted that most accidents were when the captain was flying, which said that the captain was not focusing on his job. He related that to how Southwest Airlines used monitored approaches, where the FO conducted the approach since they were qualified, allowing the captain to monitor the approach.

Pilots were trained to catch what was “wrong” with the picture, they were not trained to see that everything was right. If a pilot fixated on one aspect, they would miss other things.

He did not know the phrase consolidation of learning. When asked how important it was to fly the airplane after the training, he said that was a “no-brainer, that’s the reason they got the training.”

Interview concluded at 1424.

8.0 Interviewee: Randy Swaim, CAE Lear Instructor

Date/Time: July 11, 2017; 0830 CST

Location: CAE Training Center - DFW

Present: David Lawrence, Bill Bramble, Jim Silliman– National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)⁵

Representative: Richard R. Shiarella, CAE Legal Counsel

During the interview, Mr. Swaim stated the following:

His name was Oscar Randall Swaim, and he was 63 years old. His title was TCE on the Lear and Challenger, and he was a program evaluator [PE] for both airplanes. He also was a coach and mentor for new instructors. He came to work at CAE in December 1999 as an examiner. He was a PE for a while, then a TCE with CAE since 2000. He also was involved in revalidation type ratings.

His background was mostly military as a back-seater in the F-4. He was also an F-4 instructor, and retired in 1995. He worked for FlightSafety in 1992. In 1999, he was recruited to go to Bombardier Flexjet, and was also recruited to join CAE.

⁵ Ops group members from Lear and Trans-Pacific were unable to attend the interview.

He held an ATP with single-engine privileges, and a Lear jet and CL600 type rating. He was type rated in the Lear in 1988, and the vast majority of his total flight time was in the Lear, and had about 4,500 hours total time and about 2,000 hours in the Lear. He flew the Lear for Flight International out of Newport New, VA under a military contract. They had 54 different types of Lear jets, most of which were the Lear 35.

The last time he flew the Lear had been a few years back on a contract trip. He had an expired medical certificate and did not use it. If he had a client want him to fly, he could obtain a medical certificate.

He guessed that he spent about 50% of his time training on the Lear and the other 50% on the Challenger. Between both programs, he estimated 40% resulted in conducting check rides and rest was teaching. He was not sure how many evaluators on the Lear CAE had, and some were part time evaluators but still CAE employees.

He had briefly reviewed both pilot records after the accident. The records did not bring back everything about the captain, but he remembered a few things because he did one of the training sessions for the captain where he did not sign him off yet.

When asked if CAE trained and evaluated Trans-Pacific pilots on the company SOPs and procedures, he said that under Part 135, they were required to evaluate under the pilot's own company program and SOPs. When he taught pilots in ground school he would let them know they were training on their company program.

When asked how he became familiar with these SOPs and profiles enough to evaluate them, he said for some operators he did check rides for, he would get a sense of their procedures, and they also had their own copy. He would then find that copy, check it for callouts and see that most were similar to CAE procedures, with only a few companies having differences. He could also get that information from his training manager. The operator may have made small changes, and he could get those directly from the client. It was up to the examiner to stay a couple of days ahead of the game. Examiner responsibility to review the procedures. He said nothing stood out different from CAE and Trans-Pacific procedures.

When asked to describe the check ride he gave the captain, he said he gave him one practice session, and did not sign him off for the evaluation. For the check ride, he met the standard on everything and met the PTS standards.

For the captain's training, he was scheduled to have 2 days of ground school, one practice simulator session, and then a check ride. Whoever had him on the first S7 said he was not ready for the check ride. He provided the captain with one of his additional S7's prior to the check ride. For the S7 he conducted, his goal was to see where the captain was in his preparation, and if he was ready to be checked on the areas he had struggles with. He did not give the captain a full complete check ride, but instead gave the captain some of the maneuvers that would be on the check ride, and most of the approaches were all generally the same as would be seen on the check ride, however not in the same sequence.

He used the same airport for training and checking so he could zero in on his deficiencies and those area he may not be proficient in, and did not want to “change things up” on the pilot. That included circling approaches, and he wanted to see where the pilot was in being able to handle a circle approach.

For the S7, he debriefed him that his stick and rudder skills were fine, but his thinking as a captain and staying ahead of the airplane where deficient. His main problem was staying ahead of the airplane. He did not remember if the captain had another pilot in the right seat, or a CAE instructor providing seat-support.

Mr. Swaim was asked why he graded the captain in only two areas – SA and CRM/SRM - which were graded “C”. He said those two items stood out as problematic since he got a P in the other areas previously, and he looked in general at the others but nothing stood out there. He did observe the other areas, but those were the two areas that stood out to him as the problematic areas for that particular flight.

Asked to describe what it was about the captain that was not “captain like”, he said when he debriefed the captain he told him there were things he needed to think about as a captain, and needed to have a clear picture of. He told the captain, “You need to have a clear picture of what you’re going to do when you hit this VOR, this DME.” The captain would hit the DME point and then be “going over to get things. That showed him the captain had not thought about things in advanced, and that was delaying him a bit. He briefed him that as a captain, he needed to have a bigger picture in mind. He needed to be aware when things were getting behind him a little bit and he needed to make the appropriate call at the appropriate time. The homework he gave the captain was that instead of opening a book, he should spend the evening getting his brain around being a captain. He needed to think about how he was going to plan ahead and lead the crew and not be so delayed in what he was doing.

For his check ride, he was hoping the brief and extra simulator sessions had helped, and he noticed a distinct difference in the captain’s performance, and that was why the check ride was successful. He had told the captain that he had to think that way, and that if he could think that way, he could get to where he wanted to be. He hoped the homework he had given the captain had been helpful and that the additional simulator sessions had given him the opportunity to practice it.

He said it was not normal to get 4 practice sessions before a check ride, and this was only time he remembered seeing that in the last year or two. Asked whether he thought that the extra sessions were a “red flag” indicating that the captain should not be there, or whether he thought the captain’s skill set was insufficient to fly a Lear under Part 135, he said on that particular day, yes. That was why he had not signed the captain off. However, he improved over the next couple days. He had told the captain “if you can get your brain around that you can get there.” He told him it was about how he planned. During the check ride, he scrutinized areas like circling approaches more closely and the captain met standards. That was why he had been successful.

He did not remember who was in the other seat of the simulator, but for the training, he did not sign him off because he did not think the captain was ready for the check ride. As an examiner, you zero in and look at certain things. For the check ride, the captain met the standards.

He said after the training session, he gave Dave a detailed review and passed them on to the other instructors. He did not take any specific notes, but just briefed his manager. When asked if needing to talk to his manager about a student's performance was unusual, he said it was not prevalent, and did not see it that often.

He said the training manager would have been the one to contact the operator about a pilot's performance in the simulator, but did not know if that occurred for this occasion

He said the captain, in general, did follow procedures. On the circle approach, he started to do things late, got in too tight to the airport on the JFK 4L, circle to 31R. He told the captain, "We're going to have to see that circle again, but you're going to need a little more practice." He had to "zap" him back on final approach. They did not have enough time to re-fly the whole approach, but he wanted the captain to practice the circling maneuver. He said the captain needed additional training because he could not complete all the items in the training session he had with him.

When asked if he researched the captain's background or experience prior to a check ride, he said that other than what was in his records, that's all he knew about the captain's background. He had not talked to the other instructors about the captain's training performance.

He said he had busted pilots on check rides in the past before, and that historically, his failure rate on type rides had been a little higher than others. It had dropped a little over the years. His guess for the drop was that coming out of the recession, the industry had weeded out the weaker pilots.

For a Part 135 check ride, technically you can retrain anything during check ride, but if you had to do multiple retraining events during a proficiency check ride, the pilot really could not be considered proficient. The CAE policy was that if there were 3 "unsat" items on a proficiency check, then the ride was considered unsuccessful.

A pilot could attend re-training if the company was willing to pay for it, so long as they met proficiency requirements for the check ride.

He would not say that the captain was a weak pilot. His stick and rudder skills and knowledge of the airplane were satisfactory. The only thing he briefed him on after the S7 was on his leadership as a captain and staying ahead of the airplane.

When asked if the captain would have difficulty being paired with a weak FO, he said that he would have concerns based on the S7 training session, but not the check ride. If you had a strong captain and weak copilot, there were different interactions and team dynamics.

When asked to describe the check ride he gave the FO, he said it was “sat.” One of the things he remembered telling the FO was that, for a copilot, his check ride was half of that required for a captain, but to the same standard. If captain had a heart attack in flight, he had to ask if the passengers were going to be safe with the FO flying the airplane.

He did not remember if the FO had another pilot or a CAE instructor in seat-support for the check ride.

Regarding the FO’s command presence, he said nothing about what he saw on the FO’s check ride stood out as problematic. He typically would look at preflight checks, and he had no problem. It was usually because the FO was doing those functions. For the check ride, they took off, had a GPS approach, V1 cut, that was basically the SIC check ride. He saw nothing of concern or anything that stood out with the FO.

He had heard through one of the instructors that the FO had time in the airplane, but not much. He knew the FO needed additional training, but did not know specific areas that were problem areas. It was his understanding that the FO had about 100 hours in the airplane but he did not have a lot of stick time. He knew the FO required additional training but was checked off to take his proficiency check.

When asked if it would have helped to know the FO’s deficiencies in training prior to the check ride, he said it would not have since it did not change the standard, and he looked for knowledge of the airplane.

The SIC check ride did not require a circle to land approach. He said the FO did not have any problems with his procedures and checklists. The non-flying pilot read most of the checklists, but the ones the FO performed, he had no problems.

There was an option during the initial class where the FO could get a circle to land approach, but on a recurrent check ride, there was technically no requirement for the SIC to do a circle to land. Reviewing the FO’s training record, it did look like he did 3 practice circle to land approaches, and he did not do well until the last S7. He mainly looked to see that the FO was signed off, and that all the boxes had the required proficiency markings.

The circle to land they used in training and checking was the same, the JFK VOR 4L, circle to 31R.

When teaching to stay within protected airspace on a circle to land, he had seen a lot of pilots turn for airport based on their visual contact with certain landmarks. It was a visual maneuver, not a contact maneuver. The mileage a pilot would need to stay within protected airspace varied between 1.7 or 2.7 miles for category D. Protected airspace gave obstacle clearance of 100 feet in that area, as he recalled. Maintaining the MDA until you were ready to descend would help protect the flight from obstructions. If a missed approach was executed, it would require a climbing turn toward the last known position of the runway to ensure they were still in protected airspace.

CAE did approach to stall training. Avoidance was everything. When you got the first indication, shaker or a buffet, or pilot situational awareness where the risk of a stall could be higher, the pilot should “get out of there.” Accelerated stalls were not in the curriculum. Recovery was to be initiated at the first indication of the stall. The FAA did not change guidance on stall recovery, just the language that stated a stall recovery should include minimal altitude loss instead of maintaining altitude. He had not tried to do an accelerate stall in simulator since it did not model it accurately, nor did it accurately model the actual stalling of the Lear.

He was not sure about any limitation in the Lear 35 regarding the stall vane and more than 1G. He said the Lear 35 AOA indicator was a stall margin indicator. Stall warnings should occur above 1G. For the AOA indicator, the green to yellow indication was about 7% above the stall, and the yellow to red was about 1% above the stall. The speed the indicator goes through the color bands may change based on loads, but it was still measuring the margin, not angle of attack.

When asked what the problem was with the captain’s circling approach on his S7, he said the captain came up on KATIE (4L FAF) and was not ready. He crossed the fix, and was aware of crossing it about 1 mile afterwards. His descent rate was high due to his lateness, and he clicked autopilot off looking for the smoke stacks. When he clicked the auto-pilot off, he went below MDA, over-corrected and flew back into the clouds. That occurred during training, and he then had the captain repeat the maneuver.

On PTS, there’s no need to dive/drive anymore on these types of approaches, but the pilot had to have a descent rate sufficient to get to MDA in time to allow him to eventually descend normally from the MDA to the runway, but one needed to get there before reaching the VDP. A late start and inappropriate descent rate caused the captain to break out and be a little tight.

He saw the captain calling for checklists, and it looked natural and there was no evidence he was blowing them off.

The approach checklist should be done before a crew was actually engaging in the maneuver itself. He would expect the approach checklist to be completed prior to crossing the VOR on the JFK approach. The before landing check was done when passing the FAF, and standard call was gear down/before landing check. The pilot not flying should then complete the checklist. If not still full flaps and holding off, he taught pilots to say, “standing by on flaps” because the checklist was not yet complete. He challenged them to be very accurate.

There were no other required callouts for a circle approach, but he emphasized the importance of making sure a crew was prepared so as soon as they broke out so that both pilots could monitor and cross-check each other. Apart from that, it was a matter of following their SOPs. It was generally good for a copilot to be cognizant of the speeds because if the crew was doing it right the captain would be looking out and cross-checking the runway.

Pilots should pick up the ATIS prior to the approach, and prior to even crossing the VOR on the JFK approach. He did not want them to be tracking the needles and have the copilot heads down writing the ATIS. It was a matter of technique. It was the same with dialing in the frequencies.

He was not familiar with the TEB ILS 06, circle to 01. For that approach, he would look at the approach, and look to see what the winds and weather were, just like any other approach.

For a circle approach, you would come out of MDA when you were in a normal position to descend to runway. It was a judgment call for the captain based on the turning radius. If the crew found themselves overshooting the runway, they should go missed approach.

When asked if there was anything else, based on captain weakness on his S7, that could have been problematic on a circle to land approach, he said you could not predict, but there were areas of concerns based on what he saw on the S7. For someone like that who got extra training and did well on the check ride, he would tell the pilots aspects of leadership and leading the crew could dwindle, and to take a look at what they learned, and how they applied what they learned. He was not sure if he actually briefed the captain on that.

Asked what the captain would have needed to be on his guard for during the accident approach, he said the geometry of the approach going from runway 6 to 1, a difference of 90 degrees. If the weather was five miles, they would probably have better visibility to see things. The winds – if there was a strong crosswind it was going to blow them out a bit. He would have needed to be cognizant as a captain. He would need to consider at what point he would need to just knock it off and go missed. Those were all things he would expect a captain to consider. He did not always emphasize picking a knock-it-off point in advance, but he would challenge people to think about those points.

He guessed that for both airplanes, he did about 8-9 293 proficiency checks per month. He did a lot more proficiency checks than type rides. In 2017 so far, he had given five type rides in the Challenger and a type ATP ride in the Lear.

The captain's strengths were that his stick and rudder skills were good; for example, his single engine work was reasonable. Most things he saw with the captain had to do with not anticipating, planning ahead and being ready.

The SOPs talk about conducting a circle approach with flaps 20, gear down. The minimum speed was $V_{ref}+20$ in that configuration, due to the risk of an accelerated stall. If there was turbulence, you may bump that speed up. He expected pilots to do the approach and set the speeds in accordance with their SOPs. He would set the interior red bug on V_{ref} , and the white bug on target speed.

Shown the ILS4 approach to JFK approach chart, he said the "C" in the circle was for 2.7 miles for the protected airspace, but he could not remember the actual number.

The captain had two areas he had problems with; one was his situational awareness, and as a captain you want to know what's coming up and stay ahead, and he tended to do things at the moment. The situational awareness "C" he gave the captain was for thinking about things at the moment, and it would cause him to be delayed.

He could not remember who was in the right seat for the captain check ride, but he typically would brief the pilot not flying to give the pilot flying additional call outs, such as when they were getting close to the approach. Those things could have been better from the captain.

He said the captain's CRM with the other pilot he was paired with was fine. The part he observed was how they helped each other to stay ahead. Staying ahead of the aircraft was part of CRM. The captain had to take the lead in that. That had tied into his grading of the captain's situational awareness.

The captain had a very good attitude about needing the extra training. He thought the captain's attitude was professional and very good.

He gave the FO a "sat" since he was aware and doing the procedures appropriately. There was nothing that stood out as a problem for the FO. His CRM was good, but he was obviously a little quieter, which could be expected for being younger and inexperienced. The FO was a little bit shyer than other pilots, but nothing that appeared to be a problem.

He could not answer as to why the captain was having difficulties staying ahead since there could a whole multitude of reasons. He saw or knew of no evidence why the captain was having difficulties, and saw no evidence of an aptitude problem. He offered that perhaps some of the captain's experience was flying with stronger copilots, but said he had no way of knowing. Nothing had come up in their discussions to suggest that.

When asked if he saw evidence that the captain was frustrated or overwhelmed, he said that the only time the captain got overwhelmed was when he put himself in that situation, like getting behind the airplane. He did not see the captain as angry, resistant, or frustrated. His demeanor was very professional. The captain did have insight to his own deficiencies and the captain acknowledge those deficiencies and sought to improve. Asked whether the captain had indicated whether any of the areas of weakness Mr. Swaim had identified were longstanding areas of weakness for him, Mr. Swaim said no.

He could not think of anything he would have done differently. The captain had certainly met the standard during the check ride and he would not have changed anything he did during the S7.

Interview concluded at 1016.

9.0 Interviewee: Ronnie Bruce Leveque, CAE Lear Instructor

Date/Time: July 11, 2017; 1103 CST

Location: CAE Training Center - DFW

Present: David Lawrence, Bill Bramble, Jim Silliman– National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)⁶

Representative: Richard R. Shiarella, CAE Legal Counsel

⁶ Ops group members from Lear and Trans-Pacific were unable to attend the interview.

During the interview, Mr. Leveque stated the following:

His name was Bruce Robert Leveque, and he was 62 years old. His title was CAE instructor and TCE on the Lear. He had been a TCE for about 15 years, and had been with CAE for 16 years.

His background included being licensed in and flying charters in Springfield, IL. He worked for a company that had a Lear 23 and C-340 and flew both. He was type rated in the Lear in 1977 or 1978. He flew the Lear 23 and was hired by Executive Jet Aviation. He flew for them a few years before being grounded for medical reasons. Most of his experience was in the Lear 20. He took a couple of years off, got his mechanics and A/P licenses, and worked as mechanic then inspector. He worked at Garrett Aviation for 17 years, from 1984 to 2001. In May 2001, he came to CAE, teaching in the Lear 25, 35, 55, and eventually the 31.

He held an ATP certificate with a Lear type rating, and had a CFI that he never renewed.

He had a total of 16-17,000 flight hours, and the last time he flew was in 1981.

His roles and responsibilities at CAE mainly included instruction and examiner work, certification rides, check rides and training for Part 135. He also taught ground schools in various Lear models.

He was familiar with Sunquest since he was a TCE [training center evaluator] for the company. He thought Randy was another. He did TCE work for about 40 different companies, and there typically was 3-4 other TCE's for an operator. He reviewed his binder for all the operators he was a TCE on and did not find "Trans-Pacific" listed, but Sunquest was listed. He trained and evaluated pilots on their own company procedures and profiles. CAE had the information on a company's SOPs in their e-files to review the SOPs. The Sunquest SOPs were similar to CAE SOPs, callouts and maneuvers.

The most recent check ride he gave to the captain was a 6-month instrument competency check. He did not specifically recall the check but he had reviewed the training record and it was an instrument competency check, a 6-month check. The captain passed. It was the same as a 135.293.7 check, and included the prestart checks, instrument checks, RNAV departure, steep turns, stall series, unusual attitudes, two non-precision approaches, rejected landings, full published missed approach, holds, engine failure and restart in flight, V1 cut, single-engine approach to a missed approach from an ILS, a no-flap landing, a visual approach and a rejected takeoff. It was basically the same as a type ride and competency check.

A circling approach was included during the check. For the circling approach (non-precision to a circle), they used the JFK VOR 4L circle to 31R. For a Part 135 check, there was training allowable during the check ride. It was CAE policy to allow a pilot to receive retraining only twice on a proficiency check or instrument competency check. He was not sure if there was any written policy from the FAA on how many times a pilot could be re-trained.

He did not recall if the captain's check ride was evaluated with another pilot or seat-support instructor, however the training record indicated that the other pilot was a client. Commonly

pilots would be paired with another client or one of the CAE instructors. The simulator session was 4.5 hours long for 2 people. The pilots would swap seats half-way through.

He said nothing jogged his memory about the captain's performance. Everything was to standards.

He had provided training and checking to other Sunquest pilots. Generally speaking, they would need extra work. It was common to have issues with V1 cuts, single-engine work and single-engine missed approaches since they never do it on the line.

He had heard that the captain had previous training difficulties, and saw that he got additional training. He did not voice any concerns about the captain's training background. He did not remember much about either pilot.

The FO was last at CAE for an R5 recurrent training, which included an S15, S16 and a check ride. He was scheduled to give the FO an S8 on 9/22/2016 for his check ride, but he had been determined not to be proficient to take the check ride, so he provided the additional training. The record indicated that he gave him an S8, which typically could only be graded "sat" or "unsat", but instead since he was using this scheduled S8 just for retraining and not checking, he graded him proficient or not proficient, indicating it was only a training session.

He marked multiple things C's since he had problems with multiple items. He was not ready to take a check ride from the training session he had with the FO.

For the circling approach, the FO probably did not make a good landing out of the approach because he had marked the landing unsatisfactory, but he could not recall what part was bad.

For the FO's CRM, he said he had issues with crew coordination, and they were not working well together as a crew. He did not recall who was in the other seat for the FO's training. Regardless, it did not work well. Asked for examples, he said information transfer during approaches, situational awareness, knowing where he was during approaches. Sometimes that may have included not configuring the airplane on time.

When asked why they limited all training and checking circle to land approaches to JFK, he said they could not circle at other airports since that was the only airport they were allowed to train and check. They could use other airports, but they were not modeled well enough in the simulator to do a circling approach.

Asked whether Jeffrey had discussed any outside issues that he might have attributed his training difficulties to, he said they had no discussion of any outside influences.

He said the level of retraining was not common for someone with prior Lear experience. No one approached him about Jeff's training. He knew Jeff was having issues, and he would look at Jeff's previous training records so he could concentrate on where Jeff had C's already.

He did take notes for the debrief, but did not retain those notes, and did not remember what notes he took.

Normally, the CAE Lear manager David Farley would be informed of any issues with a student, so he notified the manager that Jeff was not ready for a check ride. The manager would then contact the company. He was not sure if that happened in this case.

Circle to land approaches were trained in the simulator, and that would occur on the first day of an R5 training course. He would teach the pilots to remain in protected airspace by keeping visual contact with the runway. If they were flying the proper speed, they should be able to stay within the protected airspace. Configuration and speed were the real issue. For Category D approach speeds, protected airspace extended to 2.3 miles out for obstacle clearance.

He did not think circle to land approaches in the Lear were particularly challenging, but the speed control was critical since they may lose visual contact with the runway if flying too fast.

CAE taught approaches to stall. The stall trained in a bank could be considered an accelerated stall, but they did not train any stalls in excess of 1G. He had no information on any limitation of the stall vane on the Lear 35 in excess of 1G. The stall vanes were really angle of attack indicators that would warn the pilot when within 7% of the stall.

He had busted pilots on check rides in the past, and had about 2-3 in the last year. Last year, he conducted about 80 check rides, and did about 5-6 each month. Asked whether he had ever busted a Sunquest a pilot on a check ride he said no, not that he recalled.

When asked if he ever informed the company's POI when a pilot busted a check ride, he said no, but management or regulatory compliance might but he did not. There was no requirement to. He could notify the FAA, but did not recall ever doing that for any operator. He just relayed any information to his manager.

He did not have a distinct recollection of the FO, and even less of the captain. He probably would not even recognize the captain. He recognized the FO from pictures, but did not recall him.

After reviewing both pilot's records, compared to other Lear pilots flying under Part 135 he would consider them "subpar." When a pilot came to CAE for recurrent training, they should be proficient in the things CAE taught them if they are flying the line. The training should not be a big deal.

When asked why these pilots were so deficient in their performance, he said that in his opinion, a lot of copilot duty positions are not allowed to get much flying experience when on the line, and they came into training "cold" without a lot of stick time. He said he did not know if that was a fact. He did not have insight into the captain's issues since he only had him for an instrument competency check.

When asked if these two pilots had trouble staying ahead of the airplane, he said for the FO, yes because he had marked some issues with situational awareness. He had problems setting up and configuring on time, and that indicated to him that the FO was not keeping up with the aircraft. He had issues with positional awareness. He not remember anything about the captain.

When asked if he ever was contacted by any POI regarding a pilot's training difficulties, he said he had never heard from a POI, but had seen them show up to observe training or a check ride. He had never seen the Sunquest POI before. He said he had been observed as a check airman by the POI for CAE under their Part 142 requirements.

Interview concluded at 1201.

10.0 Interviewee: Bill Wickens – Former Trans-Pacific Lear Captain

Date/Time: July 13, 2017; 1005 CDT

Location: via telephone

Present: David Lawrence, Bill Bramble, Jim Silliman– National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)⁷

Representative: declined to be represented

During the interview, Mr. Wickens stated the following:

His name was William J Wickens, and he was 54 years old. He was employed with AMC Big Sky Aviation in Montana, who were the owners of the accident Lear jet, and were paying his salary. Currently he was flying in the right seat of a Falcon, and recently flew a trip to Hawaii. He operated with Trans-Pacific as a contract pilot, and simultaneously worked for Big Sky. With Trans-Pacific, they added him on and gave him a contract rate on top of his Big Sky salary. He was a captain for Trans-Pacific on the Lear and Falcon.

His background included being part of the Embry-Riddle Aeronautical University class of 1985, having started flying when he was 18 years old. To his knowledge, he had “no scratches” on his aviation record. He was a Lear and MU2 driver in Salt Lake City for Gary Levitts. He previously worked for 20 years at D&D Aviation flying Part 135 in Lear jets. In 2008 he moved to Waco, Texas and flew for Texas Aero under Part 91 for about 4 years before moving to Las Vegas and flying a year on the Lear 60. He then returned to D&D aviation in Salt Lake City when the company got back together. D&D sold the company to SevenJets, and since he did not want to fly Beech jets or Piaggio's, they took the Lear to Ryan Frost to operate on the Trans-

⁷ Gary Spears with Lear was unable to attend the interview. Leif Iverson with Trans-Pacific was invited to participate but did not call in.

Pacific certificate. He mostly flew the Falcon for Trans-Pacific, and was still employed with Big Sky. He was dual qualified for the Lear and Falcon at Trans-Pacific. He had 20,000 hours PIC [pilot in command] time, all of which were in turbojets, and most of his time was in the Lear series. He held an ATP [airline transport pilot] certificate with type ratings on the Lear and Falcon 50.

He started working for Trans-Pacific about a year and a half ago. He said he had flown with Jeffrey Alino for about half a dozen legs over the last year. The last time was a couple of months ago, probably in May. He said it was obvious Jeff was learning, and had not grown up flying, and he was very new to aviation. He was not allowed to fly at Trans-Pacific because he was so new. Trans-Pacific had a hierarchy of accomplishments with FO's, [first officers] and Jeff was not rated to fly the airplane yet within the company, he was still learning. They categorized the FO's on a scale.

He was aware of Jeff's experience, and knew he flew in the southwest. He did not talk to Jeffrey too much about his experience. It was his understanding that Jeff was there to learn and not really fly as a first officer. Asked to clarify whether Mr. Frost had told him that specifically, he said "Not in so many words, but that's kind of my policy too when the kids are so young." When asked if he had seen a company "hierarchy" SIC's [second in command], he said no, he had not seen that before. He did not know the reason Trans-Pacific had that policy, and believed it was in their ops manual. When asked how a SIC was allowed to move up and actually fly the airplane, he said he did not know, and it was up to the company. He never flew enough with Jeffrey to let him fly the airplane, even on a nonrevenue leg.

He said Jeff was fine to work with, but it was "kinda obvious" that he did not have a lot of flying time. Jeff dealt with the passengers fine, and he was very personable. He liked flying with Jeff. Jeff ran the checklists fine, was very conscientious, and he had no problems flying with Jeff. He thought Jeff was outgoing enough to probably speak up in the cockpit if he saw anything of concern. In the time they flew together, Jeff never had the opportunity to need to speak up. He was paying attention and trying to learn. He was trying pretty hard to do a good job.

Jeff never talked to him about any training difficulties, or any issues in his personal life that would have been a distraction in the cockpit. The last trip they had, they flew into New Jersey and Jeff was able to stay at home for a couple of days, which was nice.

When asked about Jeff's ability to stay ahead of the airplane, he said they did not fly a lot together. They did operate a couple of times in New York airspace, however, and he thought Jeff did okay. He flew to his time pretty well. If Jeff had 10,000 hours, he probably would have done a lot better.

Asked whether he thought Jeff was ready to transition from SIC 0 to SIC 1, he said he did not know. He did not think he would be a good judge of that without flying with Jeff a bit more. He flew the airplane and Jeff was on the radios. That was how he ran the cockpit. That went against a lot of airline stuff, but that was how he liked it. The people above him in the company decided when an SIC was ready to upgrade. That was not his decision.

When asked if he flew the Falcon from the right seat during his current job, he said no, he did not fly from the right seat, and would not be expected to fly from the right seat. In the corporate world, that was normal, but it could vary from company to company.

When asked if the Lear jet was above Jeff's skill-set, he said no, the Lear was basically a starter jet for new jet pilots.

He was current on the Lear when he came to Trans-Pacific, and went to CAE for their Lear and Falcon recurrent training. He thought highly of the CAE training, and wished that D&D aviation had done their training at CAE.

He met Will Ramsey when they flew together at D&D aviation during the middle of 2000 or 2002 in Salt Lake City. Will came in as an FO, and he flew with Will on the Lear quite a bit. They did not really socialize much, but did talk about their common interests in guns and firearms. He lost track of where Will was after 2008, and then Will resurfaced. The owner of

D&D Aviation recommended Will to Trans-Pacific, and Mr. Wickens told Ryan Frost that he knew Will.

When asked about Will's flying ability, he said he did fine when they worked together at D&D Aviation. They flew together a lot of years, mainly flying the Lear, and he did fine. Most of their flying was on medical transplant flight as part of the night crew. Will flew as an FO on the Lear, and he was not type rated until after he left D&D in 2008. While at D&D, he would allow Will to fly the Lear from the right seat. D&D had a similar SIC policy as Trans-Pacific, but Will was allowed to fly from the right seat.

He said Will would run checklists and stay ahead of the airplane, and was typically the first to get the checklist. Will was a "straight-laced" type of person, and was "by the book." He enjoyed flying with Will because of that. He did not know Will personally, but felt he would have questioned anything he had a concern with in the cockpit. Will did not necessarily talk a lot in the cockpit during busy times. He was appropriate.

When asked about Will's professionalism, he said he would give Will an "A+." Will showed up on time, dressed nicely, smelled good, and was a nice guy to fly with.

When asked about the schedules and workload at Trans-Pacific, he said he lived in Salt Lake City and would typically commute to LAX [Los Angeles International Airport] to fly, and it was "fairly relaxed." He did not feel any pressure to fly, even with a random schedule. Last July, he flew 28 days, but more recently flew a lot less and had the opportunity to get 29 days of skiing in this year and had basically done nothing. He thought that the crews in the Los Angeles area may flew more.

He said the owners of the Lear typically chartered flights, and had always wanted their own airplane, and bought the Lear. They kept it in Salt Lake City, and flew into and out of Montana primarily. They kept the Lear on the Trans-Pacific certificate mainly to make extra money. Occasionally they would use the Falcon for charters, as well.

When asked about the safety culture at Trans-Pacific, he said his only other experience was with D&D, and he had a lot of respect for how Ryan Frost ran his company by the book. There was a lot of “gloss over” of the regulations in the industry, but Ryan knew Part 135 intimately, and did things by the book. Although he lived in Hawaii, Ryan communicated regularly with the pilots. Mr. Wickens said the other thing about Trans-Pacific was that the company sent them to CAE to get their SIC type ratings and the pilots coming out of CAE training did well in the Lear.

At Trans-pacific, the pilots did their own weight and balance through a hard-copy template. For Part 91 flights, it was not required. They had several approved methods of getting their weather, and he thought that flightplan.com was the approved method.

When asked if not allowing FO’s to fly the airplane was normal, he said yes, and it’s been that way in the industry for a while since you would want the FO to have experience first. There were not many deadhead legs for the FO to get the opportunity to fly. You wanted FO’s to have experience. There was a shortage of pilots on the Lear, but not so on the Falcon.

When asked how an FO was to get experience in the airplane if they were not allowed to fly, he said it was hard to do, especially with passengers onboard. They had to sit there for a few years and watch what the PICs did before they were allowed to fly. Airlines were different since the pilots had been vetted prior to being hired and have experience, but not so in the charter industry, where the training in the airplane starts with sitting there, watching and learning.

The policy at Trans-Pacific was to complete the weight and balance, and leave it at the counter before departure. He did not know where it went after that since it just stayed there.

Ryan was very respectful of waking people up in the middle of the night to schedule a flight only if they absolutely had to.

He did not know anything about a previous Trans-Pacific incident involving an emergency landing because of a generator fire.

He did not remember any conversation with Jeff Alino where he told him that Jeff had no business being in the cockpit of a jet airplane. He did not think he would ever have said that.

He did not think he needed additional training sessions during his last training event at CAE. It was either a four or five-day course. He could not remember. Asked to clarify whether he had an extra S7 training session, he said not that he remembered. He was not aware of either Will's or Jeff's training history.

When asked if Jeff was extraverted or introverted, he said "in the middle." He said Will was the same.

When asked if he recalled the five hazardous attitudes (Anti-authority, Impulsive, Macho, Invulnerable, Resignation) discussed in various pilot training courses, he said yes. When asked whether Will demonstrated any of those attitudes, he said no, Will was "middle of the road."

When asked if Will would swear a lot, he said no, he was pretty much a Mormon. Living in Salt Lake City, it was not his style, and would have been unusual for him to swear. The last time he communicated with Will was several weeks before the accident, when he left the airplane to Will, who then flew additional charters.

Will had never reported any recent life events, and seemed generally healthy. Will did not drink or smoke, and the extent of their conversations involved their interest in guns. They had traded guns before.

When asked about Will's assertiveness, he said Will was "kinda middle of the road." He would say something if he needed to.

Asked about Will's general level of proficiency, he said it was "way above average." He said Will studied the airplane, and working for Ryan Frost, you had to. Will was knowledgeable and not overly assertive. He never had the opportunity to see how Will handled an abnormal or

emergency situation in flight, and he had never had to take controls from Will when Will was flying.

He was not aware of any limitations on the stall vane of the Lear, and said the accident airplane “couldn’t be more perfect,” and everything worked perfect on the Lear. He said pulling more than one G on the Lear would be unusual. He was not a test pilot.

Asked how closely Trans-Pacific Pilots followed checklists and adhered to company SOPs, he said Trans-Pacific pilots were “100% by the book,” and never saw anyone have problems completing their challenge/response checklists. He used the checklist in a read-do, challenge and response fashion. That was how he liked it.

He had no idea about the pay at Trans-Pacific since he got paid by the owners of the airplane, and got contract pay by the day from the company.

He thought Trans-Pacific was growing, but was not sure since he was not privy to that information. He knew they kept adding airplanes.

His workload at Trans-Pacific was easy. He flew several hundred hours between the red Lear and the ones Ryan owned, and got enough hours to remain proficient.

He thought morale at Trans-Pacific was fine, and did not hear anything otherwise. From what he could see, he thought their staffing was fine as well.

He and Will had worked together for years and they traded legs in the airplane. He never saw any situations where Will was behind the airplane.

When flying into TEB [Teterboro, New Jersey], he would have Jeff run the checklists and handle the radios. Particularly in that airspace, he wanted Jeff to handle all the radios. When flying with Jeff, he would always call for the checklist and Jeff would perform it. For TEB, you would want to get the ATIS [automatic terminal information service] about 100 miles from the airport.

He absolutely thought Jeff's assertiveness in the cockpit was appropriate.

He was impressed with how much Ryan knew about 135 regulations, the training, and considered it much better than what he experienced with prior companies. Ryan was doing it by the book.

He was still on salary with Big Sky Aviation, the owners of the Lear. They were like family to him. Salt Lake City was a small community, and there were companies that could use his services. He had no idea if the other pilots were also flying for other companies at the same time. He did know what the other pilots got paid, and did not remember anyone complaining about their pay.

He knew Will had served several years in the army, and they had a common interest in guns. When asked if Will would swear in his personal life, he said Will was a Mormon, and that was a "silly question."

For a typical charter with Trans-Pacific, Ryan would call or send an email about the charter the next day, and send him an airline ticket. Sometimes he would get a hotel for an overnight. The next day, they showed up to the airplane, and since most of the Trans-Pacific pilots were young and eager, they would do most of the preflight work. He would like to do the weight and balance, check the weather and file the flight plan. Sometimes the FO would handle the preflight, catering load bags and do the safety briefing prior to departure. Flight release sent via email. I would have the itinerary. After they did the weight and balance, they would leave a copy at the FBO [fixed base operator], and transmit a copy of the completed template to Ryan Frost. All the aircraft had a binder that had all the forms in it.

He said Ryan told him Trans-Pacific charters were 100% booked by charter brokers.

He had shot the TEB circle to land approach hundreds of times and considered it "easy." It was preferred, and the controllers knew it. All he could think is they got too slow. He probably had

not done the approach with Jeff since he mainly flew transplant flights out west. The latest you would want to initiate a turn toward the runway on that approach would be about 3 miles, maybe more. Once at minimums, you were close to runway 1. The company he flew with previous to D&D did not allow circle approaches, but that was back when he was flying the Lear 20 back in the 1980s. He could not remember flying the TEB circle approach with Jeff, and thought it was a visual approach the few times he landed there with Jeff.

Interview concluded at 1145.

11.0 RECORD OF CONVERSATION - Captain Scott Wardell, D&D Aviation

By:

David Lawrence

Aviation Safety Investigator

Operational Factors Division, AS-30

Date: 7/19/2017; 1515 CDT

Person Contacted: Captain Scott Wardell, D&D Aviation (via telephone)

NTSB Accident Number: CEN17FA183

Narrative:⁸

The following is a summary of a conversation that occurred with Captain Wardell:

Scott was a captain on the Beechjet for D&D Aviation out of Salt Lake City, Utah. He had been with D&D Aviation since August 2015, had about 6,500 total flight hours, and had transitioned to the Beechjet from the Embraer E120 about 3 to 4 months prior to his first trip with William Ramsey. He said he and William had flown several trips together, with William as his co-pilot on the Beechjet. One trip was to SLC-SEA and return, carrying a football charter, sometime in the late Fall of 2015. He said William had been with the company prior to his employment, and was only right seat qualified.

He remembered William, and during one charter he offered to let William fly a leg, but William declined, which he thought was a little unusual. William told him he'd rather the captain fly the airplane, but did not provided any specifics as to why. It seemed like he was new to the Beechjet since he thought William had moved from the right seat of the Lear to the right seat of the Beechjet.

⁸ Mr. Wardell was provided an opportunity to review these notes, and responded with no changes via email on July 21, 2018 at 1040 CDT.

They flew another trip together from Teterboro, NJ (TEB) to Boca Raton, Florida about 6-8 weeks later. This trip required a fuel diversion after they were rerouted over West Virginia. He remembered that, as they were trying to figure out if they had enough fuel onboard to make it to the destination, he asked William to help run the numbers for their fuel burn. William's comment was "you're the captain, that's for you to decide." They ultimately did not have enough fuel and diverted to Jacksonville (JAX). He again thought that was an unusual response, and his impression was that William was acting solely as a required crewmember in the right seat, and did not express an interest in assisting the flight beyond that.

When asked about William's professionalism, he said at the controls of the airplane he did know since he did not see William fly the airplane. He didn't see anything unusual with his interaction with the passengers. There was a little disconnect with him doing flight planning, and it was clear he had no interest in any duties beyond his just filling the role of co-pilot. He never did fly with William again to follow up on his progress.

William did do the preflight checks, get clearances, and programmed the flight computer. He also helped load bags, and seemed to be comfortable briefing the passengers on one of the legs. A pilot-not-flying (PNF), he handled the radios, and made changes into the flight computer.

His impression was, in general, William would do what he would ask, but didn't ask a lot of questions with the diversion, which told him that maybe he was on my own for the flight and would have to do things himself.

Asked about William's reputation at the company, he said he had heard stories, but did not have any specifics. He had heard William had personality differences with another pilot, but did not know the specifics on that, either. He heard stories about quirks he had, didn't like to talk to the desk clerk at hotels, but did not see it himself.

Asked if William was proactive in the cockpit, he said no, and he had to ask for every checklist when flying with William. He added that this was not normal for co-pilots. When asked if he felt like he was flying single-pilot with William, he said he felt that way a little bit, which was not normal.

Asked if his impression was that William was happy or unhappy, he said in his experience, he had not met many people who complained more than William. His dissatisfaction ranged from a variety of topics. He also noticed that William tended to swear a lot in the cockpit, and it was noticeably more than other pilots. He attributed it to his anger and general unhappiness.

On longer legs he would try to find common ground to talk about, and tried to converse on shorter topics. His overall impression was that William did not like many things. He did not remember anything specific about what William told him that could explain his attitude in general. Another observation he remembered was that William did not want people knowing his personal information, and would not talk about things like how many points he had with a particular hotel, as other pilots would sometimes share, since he did not want anyone having his email or information.

He had no other contact with William after that second flight. He may have heard him later on the radio in passing. The D&D pilots were all contract pilots, and when William was due for recurrent at the end of December 2015, the company decided not to renew his contract.

When asked if he thought William would be ready to be a captain, he recalled a conversation he had with another captain at D&D where they both agreed William should not be recommended to upgrade to captain, based on their experiences with him in the cockpit.

When asked if he would have any concerns with William being paired with a weak co-pilot, he said he'd be very concerned, based on his harshness and lack of desire to make a decision in the cockpit. Asked further if he felt supported in the cockpit when he flew with William, he said "no, just the opposite." For instance, the first time he met William, he was filling out the weight and balance sheet, but William refused to sign it. William told him "I don't want my name on anything," and if the paperwork wasn't right, William added "I'll throw you under the bus along with anyone else."

12.0 RECORD OF CONVERSATION - Derek Koch, D&D Captain

By:

David Lawrence

Aviation Safety Investigator

Operational Factors Division, AS-30

Date: 7/20/2017; 1505 CDT

Person Contacted: Derek Koch, D&D Captain (via telephone)

NTSB Accident Number: CEN17FA183

Narrative:⁹

The following is a summary of a conversation that occurred with Derek Koch:

Derek currently flew for Secure Air Charter out of Nashville, TN, which owned Beechjets and Hawkers. He flew with William Ramsey when they were employed at 7Jet (formerly D&D Aviation) together. They both went to Beechjet training at CAE together, and flew on the Beechjet. They did not fly together on the Lear at 7Jet.

They last flew together about 3 years ago. William had gotten an SIC check on the Beechjet at CAE. He said 7Jet did not renew William's one-year contract. William flew right seat with him, and they flew quite a bit together. They had an airplane in SLC, but most of their business was out of FLL. He had heard about pilots bickering about their schedules when they would send

⁹ Mr. Koch was given an opportunity to review this record of conversation, and provided corrections via email on July 20, 2017 at 2047 CDT. Those corrections are contained in this record.

pilots from SLC to FLL. They would dispatch pilots 20 days at a time or two weeks at a time, but they would have days off in between flights.

He had an issue once with William talking below 10,000 feet in sterile cockpit. He pulled William to the side to discuss it, and then he went on to do a good job. William was a little rough around the edges with the passengers, not presenting himself as being personable, and would drop the F-bomb very loud in the FBO and in front of passengers. It was very unusual, more so than normal.

After he got through that, he did a fine job, was always on time, was never late for work, and was good employee. William was highly intelligent, but would that would also get him in trouble. At CAE, he could read and know the whole manual on an airplane, but he would also correct an instructor on things like the systems, and point out their errors. During training, it was a bit of a distraction, to the point that CAE finally had to separate him and William in the end since it was holding him back. Will did not get along with the instructors.

He said he flew about 95% of time he and William were paired together. He would let William fly on good weather, empty legs. That was because he had more experience than William and was the captain. It was not really a company policy rather than his own policy of flying most of the legs. Besides, he was also new to the Beechjet and wanted to get the experience.

When William did fly, he flew to PTS standards. He flew fine, and would only occasionally get behind the airplane. That was the nature of business flying for SICs. However, he would never allow William or any other SIC to get too far behind the airplane, and would intervene when necessary. He tended to coach William, but for the most part it was not because he always needed it. He felt William tended to get behind the airplane when workload in the cockpit increased.

He said William was fine with his CRM.

When asked if William was proactive, he said yes, and that William was one of the very best at running the flight computer. He was book smart, and nerdy. He did not consider William to be a liability in the cockpit.

When asked if he ever had a challenging time in the cockpit with William, he recounted a time when William questioned him about his use of his shoulder harness descending through 18,000 feet. He thought it was a “little different” for an SIC to be questioning the captain on such things.

They talked very little outside work. He knew William led an “odd life”, and had no bank accounts and only a PO box. William was nervous about the government knowing his business. For instance, at the hotel once, the clerk was going to make a copy of his ID at check-in, and he didn’t like that. He gave the clerk his airport id badge, instead. He did not know why William was that way. William was very private. They would talk about guns, and went to pawn shops and gun shows. They were not close since they did not have compatible personalities.

He never talked to Alex Card, their chief pilot, about William. He knew Bill Wickens, and William had said Bill could be difficult to fly with sometimes. Bill Wilkins was a no-nonsense type of Captain, and he meant that in a good way.

He said the SICs he had right now were excellent. They were hiring younger pilots and molding them properly. They were not as experienced where they could have developed bad habits early on. William was experienced and set in his ways. It was nothing really as far as bad habits flying the airplane, William was just not a people person.

I learned after the accident that William and his wife had a stable marriage, and that William was adopted but recently linked with his sister. He may have had a rocky childhood. William told him he was Mormon toward the end. William did not drink or smoke or drink coffee. Had kept it quiet that he was a Mormon.

When he was flying with William in the right seat, he said William was absolutely not ready to check out as a captain because of his experience level. He did not know how William would respond in an emergency situation. He could do fine in a simulator, but thought he'd need more time prior to upgrading.

He was surprised to learn William was involved in the accident. He was in Nashville 3-4 days prior to accident, and ran into William as they were both flying to South Carolina. It was a coincidence they met in Nashville. He thought William was flying an empty leg when he left Nashville.

13.0 Interviewee: Gary Schnakenberg, MedFlight Chief Pilot

Date/Time: August 10, 2017; 1100 CDT

Location: via telephone

Present: David Lawrence, Bill Bramble – National Transportation Safety Board (NTSB)

Representative: declined representation

During the interview, Mr. Schnakenberg stated the following:

His name was Gary Schnakenberg, and he was 51 years old. He was Chief Pilot, Captain and Check Airmen at MedFlight on the Lear jet. His responsibilities included overseeing training and training records, doing administrative work for scheduling of crew, and assisted the Director of Operations in the performance of his duties, which included oversight of the GOM, Operations Specifications, and any manual updates.

He said MedFlight Air Ambulance Service was an on-demand Part 135 air ambulance operation that also included Part 91 operations on empty legs. They flew on-demand medical ambulance flights all over the US primarily, with some flights into Latin America, the Caribbean, and Canada. They had been in business for about 30-35 years, and had four Lear 35 airplanes primarily based out of ABQ.

When asked about Jeffrey Alino's employment at Medflight, he said Jeffrey was hired in August 2015 at the same time he was hired by Medflight, and they both attended ground school and simulator training together at FlightSafety in Tucson, Arizona. The majority of his experience with Jeffrey was as a line captain with Jeffrey as an FO. Toward the end of December 2016, he became the Chief Pilot at MedFlight.

He said Jeffrey's overall flying ability was "ok," with some weak spots, and his overall flying skills were "weak," as was his knowledge and overall flying. At time he was studying system, limitations. Jeffrey seemed on top of the knowledge areas, with minor difficulties in things like altitude deviations and heading deviations.

He believed the Lear training was the first time Jeffrey had been in a simulator, and it was a "handful" for him. He eventually came around, and his skills improved quickly. By the end of his training, he had the airplane under control for the most part.

When asked if MedFlight allowed their FO's to fly the airplane, he said it was a step by step process. They want the FOs to fly, and would focus their opportunities on empty legs for the FOs to operate. The captains would want to get to know the FOs before letting them fly. Captains would ask their new FOs about the Lear to get an understanding of their knowledge, and would evaluate and watch them handle the right seat tasks. Typically, the FOs would go to the airport, pre-flight the airplane, get the clearance, and complete the TOLD [takeoff/landing data] card with performance numbers from QRH. Once captains got to know the FO and were comfortable with their skills, they would make the transition to allowing them to fly legs.

He said the Lear could be a handful, even on taxi. Takeoffs were a challenge, and so were landings. He typically would start off flying, and then transfer the controls and let FO fly the airborne portion, and then would take over for the landing. He would let the FO taxi first to get a feel for the airplane on the ground, and then allow them to a takeoff. The final phase of transition was to allow them to land the airplane. Over time, he would allow them to do all those items together for a single flight. The company encouraged the captains to phase their FOs into the flight operations. That's the approach he used when he flew with Jeffrey.

MedFlight had 6 captains and 6 FOs. He was paired with Jeffrey often, and he would communicate with other captains to understand Jeffrey's progress.

He said overall, there were times Jeffrey would have string together good moments, and then he would have weak moments. His phraseology on the radio was weak. On some radio calls it would be proper, but other times it was lackadaisical where he was not thinking about what he was saying. Jeffrey was also having a hard time with his instrument scan. Sometimes Jeffrey would overshoot headings on descents, and he would have to tell Jeffrey to check his heading and speed. However, there were other times where Jeffrey was "right on" and focused.

He would have Jeffrey take a look at manuals, AIM, and study the proper ways to communicate on the radio. Jeffrey had a little trouble understanding what ATC was saying on the radio, and he would hesitate to say, "say again" when he did not understand a clearance.

Jeffrey's actual flying skill were "overall hit or miss." Jeffrey's scan was a problem, as was his understanding of what was going on with the airplane and what he needed to do. Jeffrey was not ahead of the airplane, and had problems anticipating what he needed to do. Speed was one example, where Jeffrey would be flying at 300 knots getting close to 10,000 feet but not slowing the airplane, and he would have to remind Jeffrey to slow down. When asked if Jeffrey was typically "behind the Lear", he said yes, but there were some moments he would be on top of his game.

He said other captains had similar concerns about Jeffrey's flying abilities, and they saw the same things he saw when he flew with Jeffrey. They would also say he was behind the airplane, and other captains encouraged him to review and read up on radio phraseology.

Once, Jeffrey made a comment he did not like to read or study, and could learn more by getting out there and making mistakes, which he found to be an unusual comment.

They did train for circle approaches in the simulator. He did a circle approach on his check ride that Jeffrey was in the right seat for. When asked if Jeffrey's skills could handle flying a circle approach, he said that unless someone was right there with him and was a solid, strong captain, Jeffrey would need the other person there and could not do it on his own.

When asked if Jeffrey had the assertiveness in the cockpit to question a captain's decision, he said he did not think Jeffrey quite had that ability, and he might have been more intimidated by the captain.

He did not know of any issues in Jeffrey's personal life, but did know he wanted to get back to New Jersey. Jeffrey was apparently the last sibling to leave the house, and he was taking care of his mother in New Jersey and talked about getting a job there. He thought Jeffrey had a job lined up in New Jersey. Jeffrey was a very likeable guy, and he could not help liking Jeffrey. All the captains like Jeffrey and wanted to help him and would help with his weak skill set areas.

Jeffrey appeared and acted younger than what his age was, and he acted like a kid right of high school with a lack of maturity sometimes. He thought maybe a lot of stuff was handed to Jeffrey in the past and he did not have to work for it, but that was just his opinion.

Jeffrey had no problems running the checklists in the Lear.

He said Jeffrey had found another job in New Jersey, and resigned his employment from MedFlight. Toward the end of Jeffrey's employment and before he resigned, as chief pilot in December 2016, he started getting calls from other captains about Jeffrey's flying and skills. He went to the Director of Operations and the owner of company, and mentioned what other captains were saying, and they started thinking about what training and money to invest into Jeffrey going forward. They talked about it, but there was nothing documented on paper. They did consider beginning to document the concerns the captains had about Jeffrey. Jeffrey was aware of these concerns, and he brought him into their offices to discuss his abilities with him. He told Jeffrey he was concerned about his abilities, and needed to take things more serious and get into the books. Jeffrey was studying the Lear systems, and he had a handle on that, but the

focal point was to improve on communication skills and overall flying skills. A short time after that meeting, probably about a week or two weeks later, Jeffrey gave his notice to leave the company.

When asked if TransPacific contacted MedFlight to get additional information on Jeffrey's employment at MedFlight, he said he received no contact from TransPacific regarding Jeffrey that he could remember.

When asked if it was Jeffrey's mental ability, experience or motivation that led to his difficulties, he said Jeffrey seemed to be just a lack of mental aptitude. Jeffrey was living in the moment, working for a company and realized he was a pilot. Jeffrey seemed to not take it as serious as he should have been. They encouraged Jeffrey to do extra studying on ATC communications and improve his overall instrument skills.

When asked what made him question Jeffrey's mental aptitude, he said Jeffrey did not seem like someone who was 32 years old, more like someone who just came right out of high school. He thought Jeffrey should have been much further down the road in his skills compared to other FOs, even those with less experience than Jeffrey. Other FOs were focused, but Jeffrey was not quite as focused all the time, and there were more times when he was not focused on things like flying and ATC. An example was when ATC gave them a clearance to climb and maintain flight level 330, and he read back "roger, climbing to 33 thousand" with no call sign or proper phraseology of the altitude, and would have to correct him on that. Jeffrey made a small mistake, but it would happen again even after he had corrected him previously. Sometimes Jeffrey would miss ATC calls, and that was more often than not.

He recalled a flight he heard about regarding another captain and Jeffrey on a flight to Colorado where it was snowing and they had to shoot an instrument approach. The captain was flying and relying on Jeffrey to look at approach plate and monitor the step-down altitudes. The captain was asking Jeffrey the step-down altitudes and Jeffrey called out the wrong altitudes. The captain noted that they were the wrong altitudes. Another time, Jeffrey would have problems getting clearances from clearance delivery, and several times would not understand the clearance given. Once Jeffrey realized he did not understand the clearance, he instead wrote down cleared "direct to PHX", but instead there were other points in the clearance that Jeffrey did not include. The captain came back, saw what Jeffrey wrote down for the clearance, and queried him that it did not make sense. Jeffrey was just trying to hide mistake, and captain had to correct him on the clearance.

When asked if he had a sense that Jeffrey was aware of his weaknesses, he said he pointed those out to him, and it seemed like he understood, but shortly afterwards he would make the same mistakes. Other professional pilots would accept criticism and focus on their efforts to improve, but Jeffrey was one of those pilots that wanted to cut up and get you to joke around, and instead of improving he would go back to being a kid again. Regardless, it was hard not to like Jeffrey Alino.

He said Jeffrey might have been susceptible to intimidation, and there might have been times where he could be influenced from a captain's standpoint. It would be more related to what he

was doing wrong and making corrections. Recalling that clearance episode, he may have been intimidated to use the phrase “say again” like it was a mistake. He said he could see where Jeffrey could be intimidated by a captain’s personality.

He thought Jeffrey was not what you would typically see from an FO focused on his job. Jeffrey was so caught up with the fact he was a pilot, and caught up by the glamorous part of being a pilot, instead of focusing on the studying to be a pilot.

MedFlight had a lot of turnover, with today’s world of aviation there was shortage of pilots. Today, the pilot shortage was real, and companies out there were trying to do what they could to hire individuals.

He said he had flown the circle approach into TEB numerous times, and had done it in other types of airplanes. He considered it a “handful approach.” MedFlight had an SOP prohibiting circle approaches at night and in weather.

They had no written records documenting Jeffrey’s abilities, but it was the next step they were going to take. At that time, he was still trying to get up to speed as the new chief pilots. They were all thinking about what to do next with Jeffrey, asking if they were going to invest more time and money in this individual. They were not sure if he needed more sim time, or just needed to get back into the books. Jeffrey resigned his employment on his own, and was not fired.

Interview concluded at 1154.

14.0 Interviewee: Aravinda Udangamuwa, Trans-Pacific Lear First Officer

Date/Time: August 17, 2017; 0915 PDT

Location: Castle and Cooke Aviation conference room

Present: David Lawrence, Bill Bramble – National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)

Representative: declined representation

During the interview, Mr. Udangamuwa stated the following:

His name was Aravinda Parbath Udangamuwa, and he was 31 years old. His title was SIC (second in command) on the Lear 30 series for Trans-Pacific. He flew both the Lear 35 and 31, and was hired in November 2016. He held a commercial pilot certificate with an SIC type rating on the Lear. He also held an SIC type rating on the Falcon 50 (DA50), although he only flew the Falcon once to HNL.

His background included coming to the U.S. from Sri Lanka about 5 years ago. He transferred to Los Angeles and got his private pilot certificate in VNY, and then worked for Channel Island Aviation as a line service specialist. He enrolled in a provisional pilot program there, and then flew for a sky diving operation prior to being hired by Trans-Pacific. He did his indoctrination

training in HNL with Ryan Frost, and received his Lear training at Simulflite in Dallas. Trans-Pacific paid for his Lear training. His simulator training was completed in two separate sessions due to a delay in his TSA approval, and he completed simulator training in January 2017. He estimated that his total flight time was about 895 hours, with about 240 hours on the Lear. He was hired at Trans-Pacific with about 700 hours.

He flew all of his Lear flights with Leif Iverson since they were based out of VNY.

When asked if he got to fly the airplane, he said no because he was still an SIC 0. His SIC duties included getting the airplane ready, calculating their performance numbers, and generally performing the duties of an SIC and supporting the PIC.

He started flying the Lear in January 2017, and only flew Part 91 legs, probably about 5-6 times. He had made a few landings and departure procedures in the Lear. When asked if he had difficulty maintaining currency, he said he flew single engine airplane for currency, and would sometimes ask the captain to give him landings in the Lear. He kept track of his own landings and the company also had a system to track landings since they logged that information after each flight.

The SIC-0 limitations were a company policy. It meant that he could not fly the airplane without the PIC's supervision, and the PIC had to be monitoring him all the time. Moving up from SIC-0 involved a paperwork process with the company recognizing him as competent to fly the airplane. The PIC would sign paperwork and hand it over to the company. He had just talked to Ryan about moving up to SIC-1 about a month ago, before he left for 2 weeks of vacation, and they were in the process of developing the paperwork.

He flew all his flights with Leif Iverson since they were based in VNY and Will was flying out of SLC. Moving up for SIC's is a combination of the PIC giving a "thumbs up" and recommending it to Ryan. Ryan was a pilot, but did not fly for the company, and Mr. Udangamuwa had not flown with Ryan. Since the accident, he was the only SIC on the Lear. The company had hired a few Falcons SICs. There were no SICs who were authorized to fly the Lear. He did not know if Jeffrey was an SIC-0 at the time of the accident. Jeffrey had more time than he did in the Lear and was more senior.

He had never flown with Will Ramsey. He had met him a couple of times, and thought he was a nice guy. Will was a flight instructor. He had only met Will twice, once at a dinner in Florida and once at TEB. He had not heard of anyone having issues with Will.

When asked if he knew Jeffrey, he said he had met him a couple of times. They had not discussed how they felt about the company or Will. He and Jeffrey did not see each other often because Jeffrey lived in New Jersey and Mr. Udangamuwa lived in LA. He and Jeffrey once discussed how they ran checklists in the airplane, and it had been pretty much the same. Jeffrey told him was really happy with his family, and he wanted to fly for Skywest. Jeffrey's ultimate goal was to go fly for Skywest, for a Part 121 operation.

When asked if the company would organize meetings for all the pilots to conduct training or discuss the operation, he said for past 9 months, they had one meeting in VNY for the iPad transition, and they went to lunch at a Sri Lanka restaurant. Jonathan brought up things about using the iPad. It was a casual meeting coordinated by the company.

He said Jeffrey told him it was fun flying with Will because Will was always teaching him. Jeffrey said he could learn a lot from Will. He never voiced any concerns about Will, and said he was happy flying with him.

Mr. Udangamuwa was asked how he liked flying for Trans-Pacific. He said Trans-Pacific was his first jet job. It was also Leif's first jet job. They wanted to do everything as they trained. They would brief before they left, meet at the gym, and discuss flights. They had a good understanding of each other. With respect to working for the company, he said his flying was more of a "me and Leif operation" in VNY on the Lear. The company gave them full support as they followed the protocols.

Their schedules varied. Since the accident, flying on the Lear was a little slow, so Ryan sent Leif to Falcon training. Prior to the accident, they were pretty busy, flying 10-12 days a month. He was on call 7 days a week, 11pm to 9am. He could always request time off from Ryan if he needed it. There were no set number of days off, but could request days off ahead of time. He had a contract with the company, and he was salary based. There was a training provision in the contract to reimburse the company their training costs if he left within one year.

When asked about his workload, he said it was "pretty ok." He was always asking for more work from Ryan since it had gotten slow in flying. If he flew more than 15 days a month, they got paid more. They also would get per diem. The heaviest month he flew was 16 days of flying. He felt no pressure to go fly, and felt supported by the management. If he had any questions about the airplane or procedures, Ryan or Jonathan would respond to him, as would the other pilots.

He did not know of any safety forms that could be used by pilots to voice safety concerns to the company, but he felt like he could always talk to Ryan or Jonathan, or his captain. He had never had to do that.

He had never seen the FAA on one of his flights. He knew who the POI was because the POI had performed his check ride. He had met the POI a few times since, once when they were doing the iPad meeting in VNY.

When asked what his biggest challenge was in his job, he said it was going to places he had not been to before. The Lear jet was an aircraft not like others; it was fast and had its own characteristics. There were considerations, like flying into a high-density altitude airport or flying heavy. Weather was also something he was concerned about.

He liked his training at CAE in Dallas. That was his first jet training, and he felt prepared when he came out of training. He knew coming out of training he was not 100% prepared to fly the airplane on the line, and had a lot to learn and needed help from his captain. The first time he

actually flew the airplane was on a landing on his second or third flight. The next flight was another Part 91 leg, and his captain allowed him to take off and fly the departure procedure before the captain took over in flight.

They trained on circle to land approaches. When asked if there were restrictions to flying circle to land approaches, he said none that he knew of, only that the ceiling should be at least 1,500 feet.

The checklists they used were verbally challenge/response. Executing the checklist was a say/do/verify. He would call the items, the captain would perform the item, and he would verify it.

He said Will and Jeffrey both seemed happy flying the Lear. Jeffrey was generally a happy guy. Jeffrey never mentioned anything about the Lear being too challenging or overwhelming for him to fly.

He did not know if either Will or Jeffrey had any health issues or took prescription medication.

The last time he saw Will was in TEB the week before the accident, and he the last time he saw Jeffrey was in Florida about 2 weeks before the accident.

Neither pilot mentioned having any recent illnesses or major life events. He had not had any communications with either pilot 72 hours prior to the accident, and had never flown with either pilot.

He had flown the accident airplane, and last time was a week before the accident when he flew from VNY to TEB. He said everything was perfect on the airplane. It was fine. There were no “quirks” about that airplane, and it was flying perfect with no issues.

There were no significant equipment differences between the Lears he flew. He had never flown the TEB circle to land approach. The last time he flew into TEB, they were using a different runway for a straight in approach.

He and Leif had done circle approaches together before. They would use the regular protocols; Vref+20, flaps 20 with gear down for the approach. They would set up at pattern altitude, and use a visual confirmation of the distance to the runway. They would always brief the approach, discuss what they would do, put the altitude in the box, and at pattern altitude they would start the turn after leveling off. The turn to the runway would depend on the airport environment.

He felt comfortable raising any issues he might be concerned about with his captain during a flight.

He could not remember specifics about their CRM training, but remembered seeing it in indoc training. They talked about it there, but he could not remember where it fell in the syllabus. They had talked about weather, how to discuss the weather, when to brief the approaches, and what should be briefed, that kind of stuff. The company had an emphasis on doing briefings.

Ryan trained him during indoc training, and had actually pulled out some approach charts and showed him how they should brief, and what they should specifically look for. He had given them scenarios.

When asked when they would brief for a circle to land approach, he said normally they would brief it enroute as soon as they got the weather for the destination airport. The briefing would be conducted way before they began the approach, and it would include when they should turn to runway alignment. That would be a routine part of the briefing.

The company did not have a preflight risk management process. He had never been in a situation where he had to take controls from his captain.

When he was hired, Ryan gave him an oral interview, and asked him about instrument procedures. There was no written or simulator testing, or testing in an airplane cockpit.

He said he earned about \$45,000 per year which he considered reasonable, and he said that other operators offered about the same. Morale prior to accident was good, and he was "pretty ok" with the trips he got. He was happy.

Ryan tracked crew duty times. Ryan would contact him if there was a potential to run over duty time, either by phone or email.

When asked if he or Leif had ever turned down a flight for safety related reasons, he said yes. There was a flight in Colorado with a cold front coming in, and there was heavy snow with a contaminated runway. There were issues also with the deice fluid. That went very smooth, the passengers showed up late but were ok with their decision, and he was supported by the company. They had also advised the brokers of the situation.

When asked if Leif would let him conduct a circle approach from the right seat, he said Leif never let him fly a circle approach, but he would ask him to help with the visual references. He never flew a circle approach on his own.

The training at Simuflite in Dallas went fine. It was initial transition, and he had a few problems with the systems. Flying the airplane was no problem, and he did not need any extra training.

When asked if he and Leif operated the Lear differently on Part 135 flights and Part 91 flights, he said no, they flew revenue and empty legs the same. Leif would put the flight plan in the box and do the weight and balance. He calculated the performance numbers, and would complete the TOLD card. It was the same routine for every flight. Leif always did weight and balance for both Part 91 or 135 flights, using their weight and balance sheets. After the weight and balance was completed on the trip sheet [logbook], Leif would take a picture of the weight and balance and send it to Ryan. He did that for every flight.

When asked about flight tracking, he said Ryan used Flightaware to track the flight. They would call Ryan before they left, or sometimes send him a text message, which was the preferred

method. Once they got to their destination, they would call or text Ryan. They did that for every flight, and were told by Ryan to do that for every leg regardless of it was a Part 91 or 135 flight.

He did do some international flying, and had flown to Canada on a Part 135 flight as SIC in the Lear. When asked if there were any restrictions on him to operate internationally, he said no.

When he did his simulator training, he did not have to repeat any simulator sessions. He did the normal training and check ride.

He said that once when he and Leif were flying into TEB, the transition was a little longer to get to the airport. They had been cleared for the ILS runway 24, and were trying to check in with the tower but the tower did not respond to them until less than one mile to the runway. They almost had to go around. TEB was really quiet that day they flew in, but they had to call several times to get a landing clearance. He thought maybe the tower just forgot about them.

Interview concluded at 1026.

15.0 Interviewee: Jonathan Berges, Trans-Pacific Chief Pilot

Date/Time: August 17, 2017; 1230 PDT

Location: Castle and Cooke Aviation conference room

Present: David Lawrence, Bill Bramble – National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)

Representative: declined representation

During the interview, Mr. Berges stated the following:

His name was Jonathan Berges, and he was 41 years old. His title was Chief Pilot and Falcon Captain for Trans-Pacific. His responsibilities as chief pilot was to administer the training program and conduct general supervisory tasks over the crewmembers. His background included being furloughed from Avant Air in 2012 with 7 months of unemployment. He held multiple jobs and had gone through 2 furloughs in 3 years before he spoke with Ryan on the phone based on a referral from another co-worker. They got along, and even though the job was further away from home than he wanted, they had been able to make it work out.

He was hired August 2016 as the Trans-Pacific chief pilot, and began flying as a co-captain on the Falcon. He held an ATP multiengine land certificate, with type ratings on the Citation 500, Embraer 500, and Falcon 50. He had about 6,000 hours total flight time, with about 5,400 hours as PIC. He flew charters for the company, and currently was the only qualified full-time Falcon captain. He said his workload involved more flying than being the chief pilot. He did not have any operational control with the company.

When asked to describe Trans-Pacific, he said it was a small charter operator with headquarters in HNL but primary operations out of VNY, flying primarily in the continental U.S. They had six pilots; 3 for the Falcon and 3 for the Lear. One pilot (Leif Iverson) was dual qualified on

both airplanes, and Leif was the only Lear captain presently. He said they had an office administrative assistant who went over the flight logs and expense reports. They had a maintenance tech in HNL who had been with the company for less than a month, and a DOM who was based in the bay area, not HNL. He had never met the current DOM. They had a previous DOM who left, and the current DOM had been with the company about 3 months. There were no other employees.

The pilots were scheduled on an “as-needed” basis. They were not on call 24/7. They generally did not have any “pop up trips,” and typically had advanced notice of their charters and would contact the pilots to schedule the trips. He said Leif and Ara had to do a “pop-up” trip where they had to be at the airport in two hours, but typically the pilots had at least a week’s notice. There was no requirement for the pilots to be sitting by their phones.

When asked how he, as Chief pilot, communicated with pilots regarding policies or procedures, he said it was generally by email “as needed.” It would include things like making sure the pilots were checking the general conditions of the airplanes, and making sure they were cleaned and stocked up.

Ryan Frost was his immediate supervisor. Ryan was the Director of Operations, the charter coordinator, and handled the sales. He said Ryan “wears many hats.” When asked if Ryan was also the Director of Safety for the company, he said “I believe so.”

The charter coordinator took calls from the brokers, assembled the trips, did flight following, and disseminated the trip information to the pilots. There was no difference between a flight coordinator and a charter coordinator. It was just a “wording thing” in the GOM.

He did not know Will Ramsey on a personal level. He knew he flew from SLC, was married, and was a pilot. He never worked with Will directly and never flew with him. He did some EFB training for Will, and said Will was “just a guy coming to work and getting job done and going home.” He would never hear from Will Ramsey. Will was already with Trans-Pacific when he got hired on as chief pilot. Will lived in the SLC area, so they never ran into each other in VNY. He had never ridden on one of their airplanes to observe the pilots.

There were never any complaints lodged by any pilots regarding Will Ramsey’s flying, but the administrative assistant had sent him a few emails regarding Will’s incomplete paperwork, leaving off dates and duty off times. That was a “periodic occurrence.” Not any flying or pilot capacity. Will was a likable guy, and everyone enjoyed being on the road with him. There were no discipline issues with Will, and Will never called to complain about anything, and he only talked to Will a few times on the phone. He never had any social calls with Will, and would only speak to him on the phone a few times. There was never anything that would lead him to question a lack of professionalism with Will. He did not remember Will cursing or using coarse language in his interactions with Will.

He said he and Jeffrey Alino started at Trans-Pacific at the same time, and they went to training together. He knew Jeff better than Will. His initial company training was in HNL, and he met Jeffrey there. After that training, they went their separate ways. He went to Falcon training and

Jeffrey went to Lear training. Jeffrey was supposed to be based in the New York area, but that did not work out. A few months after Jeffrey's sim training, he helped Jeffrey get ready for his FAA check ride regarding his general knowledge of regulations. He said Jeffrey was struggling since he was a low time pilot in this was the most in-depth and thorough oral he would have to sit through, which was conducted by the FAA.

Jeffrey came from another Lear operator, and was hired by Ryan. He had never ridden on one of Jeffrey's flights.

He said he flew several times each week. When he flew, he would typically let most of his FOs fly since they were experienced in the airplane.

When asked if there were any comments or concerns about Jeffrey's flying from other TPA captains, he said no. Each of the captains he did speak with about Jeffrey's performance told him it was normal progress and he was doing well. He was paired with both Leif and Will, and also another pilot who was terminated last year. Jeffrey also flew with Bill Wickens. Michael Farb also flew early on with Jeffrey.

Jeffrey was based on the west coast, and about a month prior to the accident Jeffrey moved to the east coast, which he did not know about. He called his landlord in VNY and was told Jeffrey had already moved out. He did not know of any plans to bring Jeffrey back to VNY on the Falcon.

He was not aware that Jeffrey had been hired by another company, and was scheduled to start training on a Falcon 50 on a week after the accident, and Jeffrey had not provided him any notice of his new job.

When asked if Jeffrey ever stated he was unhappy with the company, the pilots or the schedule, he said no.

When asked about the SIC-0 policy, he said it was the bottom of a tiered program, ranking of the SICs. Everyone started out as an SIC-0. It is an administrative tool to limit the actions of the SICs until they've demonstrated their abilities with a competent training pilot. SIC-1 means they can fly the airplane on repositioning legs, and SIC-2 were allowed to fly empty with any captain. The top SIC tier allowed the SIC to fly from the left seat on any flight.

That policy had been in place since he had been there. He did not inquire about its background, and knew that at other companies, SICs were only allowed to fly empty legs. At a previous operator he flew for, he could fly with a standards pilot and would eventually need 3 other recommendations from captains to move up. He never inquired why the policy existed, but had been a part of that type of program previously.

When asked why there was a need for SIC-0 system if the SIC was already fully qualified, he said that SICs had demonstrated their abilities in a simulator, but not in real life with passengers. Before putting their name on the line with passengers who were paying the bills, they wanted to make sure they can handle the basic tasks. Usually, this was the first crew environment

experience new SICs had operated in. They wanted to make sure the SICs could master the basic tasks.

When asked how the company determined it was time to move an SIC up the tier, he said they would have to fly with an admin pilot who would allow them to manipulate the controls. That pilot would change the ranking for the Sic. At time of the accident, there were no admin pilots on the Lear. He added that had it come up before the accident, they would have had Jeffrey fly with Leif Iverson and get Leif's feedback. When asked if Jeffrey was ready to move up, he said the captain he spoke with said Jeffrey was making progress.

Jeffrey had never pushed the idea about moving up in the ranking system. They were hoping Jeffrey was ready to move up, and he and Ryan had conversations about moving Jeffrey up the tier. At the time of the accident, there were no Lear SICs that were allowed to fly the airplane since they were all SIC-0.

When asked how the accident crew's schedule met the 135.267(d) requirement and the GOM 6.5.4 requirement, he said the printout of the schedule was a typo for the departure on their final leg. That error had been caught by Ryan, and he cleared it up with the crew. There was no documentation that was edited to reflect the correct schedule.

When asked about the weight and balance, and if it was done on the accident leg, he said there was one done on the BED-PHL, but they did not keep a record of a weight and balance from PHL-TEB, and there was none transmitted by the crew. When asked if it was their expectation for crews to complete a weight and balance even on non-revenue legs, he said it was their expectation for the aircraft to be operated within the limitations of the aircraft, but they did not require the crew to transmit a weight and balance to them. They expected them to operate under the rules of Part 91 for repositioning flights. The wording they had in the GOM was a little misleading. When asked if the SOP manual had a requirement for the crew to perform a weight and balance for each leg, regardless of Part 91 or Part 135, their expectation would be to comply with the SOP manual and conduct the weight and balance for every flight.

He did not know if they received a text message notification of the crew's departure from PHL, and said it was their expectation for the crew to send a text message on every flight, Part 91 or 135, even though it was not required under 91. Text messages went to Ryan, and he did not receive those. The chief pilot position had defined operational control, but he did not get flight tracking text messages. He did not track the flights.

Trans-Pacific dealt primarily with brokers who contacted them for charters. The clients would contact the brokers, and the brokers would then contact Trans-Pacific since they did not do any direct sales nor advertise. He was not involved in the billing for the flights. He did not know if clients were being billed for empty legs on a trip.

They did not have a FOQA program, and the only data recorders they had were the CVRs on their airplanes and the monitors on the engines. They had had the conversation many times, and since the accident, they had started wondering if they needed to download CVR recordings as "spot checks" on how the operations were being conducted. They had spoken about a QA

assessment flight, but had never worked that out. As it stood currently, the only QA assessment they had were the simulator training sessions, the pilot check rides and line checks.

When asked how would he know if his pilots were complying with SOPs during regular flight operations without data from the flights or anyone actually observing the operation, he said “I don’t,” and did not know what happened when the door closed.

When asked about the safety process and culture at Trans-Pacific, he said Ryan would put together flights, and check to see that they could be accomplished, along with aircraft status. The flight crew assessed the flight conditions for that day. If there were any concerns, they could contact him or Ryan. Trans-Pacific did not have any formal risk assessment tool, and though that may have had something to do with their previous VNY POI. The new POI was in HNL, and that had change recently. The company had discussed implementing a formal SMS program, but they had a backlog of information waiting on the POI’s approval. He thought they were in the process of getting caught up.

When asked what was the most challenging part of his job, he said it was dealing with the different personalities of the pilot group. Everyone was a little different, and they all processed information a little differently. The most rewarding part his job was when he succeeded in dealing with these personalities, which he considered a success.

When asked if what he heard on the CVR was consistent with the expectations he had for the crew to operate their airplanes, he said no, the whole recording was a surprise and he was quite embarrassed by what he heard. It was the first CVR he had heard other than some excerpts from case studies. It was different than what he had experienced before.

When asked prior to the accident, how he would know how his crews performed on the line, he said either by a simple phone call or conversation at the airport when he would ask another pilot. He did ask Will how Jeff was doing about a month prior to the accident, since Will was one the first pilots Jeff flew with after getting hired. Will said Jeffrey was making progress. He never asked Jeffrey about flying with Will, and there were no negative reports about flying with Will. Jeffrey did not have the skills of a seasoned pilot, but that was because he was a low time pilot, and was to be expected.

Asked whether he knew if either pilot had difficulty completing training at CAE, he said he knew Jeffrey needed a few extra days of training. He believed Jeffrey’s previous company just through him into the airplane and got him checked out “on the fly,” and this was Jeffrey’s first exposure to real jet training. He was not surprised Jeffrey was struggling with the Lear. It was a big step up for somebody with his limited experience to move into the Lear. They wanted to make sure he got the training and was able to move forward. Ryan Frost made the decision on any extra training for Jeffrey.

He did not know if Will had any trouble with CAE training.

The minimum experience requirements for captains or SICs was essentially what was in the 135 regulations. He believed they had specific company minimums but was not sure. Ryan Frost did

all the hiring, and he was only involved on a limited basis since he was so busy flying the airplane. He recently conducted a telephone interview with one of the new pilots. There was no simulator or written tests conducted during the hiring process.

When asked how they ensured flight crew standardization regarding SOPs and callouts, he said they received training on the SOPs in indoc, and through the contract training providers. Company specific CRM training beyond what was conducted during initial and annual recurrent was done was a review of the SOP manual and discussions on crew coordination.

Checklists were read and accomplish or challenge/response. If the airplane was in motion, it was the PNF who would challenge and self-respond with the checklist. When the airplane was not in motion, it was the PF would challenge, and the PNF would respond to switch position.

They got authorization to use the EFBs in December 2016, and they did together with all of the pilots, except for Will and Paul Perthus. Mr. Berges subsequently did Paul and Will's EFB training. He did not recall if Will ever attended a meeting for training with the other pilots. Will did the initial EFB training in VNY with other pilots, but the POI was not pleased with the EFB training, and Will had to complete his in SLC. Jeffrey operated in VNY for a while, and did the EFB training in VNY, and was there for both training sessions.

Will's hiring predated his.

Since accident, some changes had been made to procedures. QA assessment flights would be occurring, and that was in a most recent revision of the GOM, to include a once a year short flight like VNY to LAS. QA flights had come up prior to the accident, and they may be included as an additional duty for chief pilot. It had not happened prior to the accident due to his workload as chief pilot. He officially became chief pilot in November or December of last year.

He believed there may have been one previous meeting that involved all the pilots, but nothing since the accident.

None of the pilots had expressed safety related concerns prior to the accident.

He said he spent more time as captain on the Falcon than as chief pilot, and he had operational control but did not exercise it daily. That was done by Ryan Frost.

Circle to lands were authorized, and he had done them in the Falcon. It would not have been normal to have an FO fly a circle with left turns, and he would not want to have the SIC doing circle to land maneuvers.

This was his first time as a chief pilot. He had never met the previous chief pilot since the company had been without a chief pilot for several months prior to his getting hired.

Their pilots had a 12-month contract with a promissory note to reimburse training costs. Will did not have a training contract since he came to them from another operator in SLC. Will came with the accident aircraft, and it was intended to be based in SLC. Will was an employee of the

company, but Bill Wickens was not, and Bill was paid when he flew trips by reimbursing the company he worked for.

Trans-Pacific did not have Class II authority. They flew between the islands, all Part 91 operations in an airplane not on the certificate. They were recently (within the last two weeks) Part 135 flights operating. At the time of the accident, there were no operations in HNL, and all Trans-Pacific operations were in the U.S. At the time of the accident, the VNY maintained operational oversight of the operation.

Sunquest was a charter company that operated out of VNY for a number of years. They had financial trouble when everyone walked away from the company. Ryan answered a phone call from a broker trying to charter an airplane, and decided to start the company. Ryan ultimately acquired the certificate.

He believed Will Ramsey got line checked in February.

Interview concluded at 1408.

16.0 Interviewee: Ryan Frost, Trans-Pacific President and Director of Operations

Date/Time: August 17, 2017; 1430 PDT

Location: Castle and Cooke Aviation conference room

Present: David Lawrence, Bill Bramble – National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)

Representative: declined representation

During the interview, Mr. Frost stated the following:

His name was Ryan Allyn Frost, and he was 38 years old. His title was managing member and Director of Operations, which were his two primary functions. He also was the charter coordinator, and safety officer at the time of the accident. His father, Robert Frost, was now the new safety officer, and was hired to implement their SMS process. They were going through the implementation process and flight risk assessment tool through ARINC, which was to be finalized in December 2017. He was also going to act as a 3rd party person to address pilot concerns and safety reporting, including safety reporting and random audits of flight operations. Some of the SMS work had been done prior to the accident. They had an open-door policy with no repercussions for pilots to address any concerns.

His roles and responsibilities as managing member was to report to their business partner David Parker, who owned most of their aircraft. He handled the finances, including receivables and payables, and any legal issues that came up. As Director of Operation, he oversaw all flight operations, and was the primary manager of all the pilots, and would coordinate maintenance and flight operations, releasing most of the flights that occurred. He helped Jonathan with maintaining pilot records, and helped coordinate pilot training. His workload prior to the accident was high but manageable. Since accident they had brought in additional people, mostly administrative personnel with dual purposes to assist in transferring documents to HNL where it

is processed. They now had another individual, Dwayne, who was a mechanic but also was doing sales work

He was a pilot, and held an ATP with just under 8,000 total hours of flight time. He was not rated in any airplane they flew, but was going to training on the Falcon 50 next month. He was type rated in the ATR-42, ATR-72, the DHC-8, CE-500, G-1159 and G-IV.

His background included being a 4th generation pilot in his family. He got his private certificate in 1997, and his first flying job in 2002, and his first jet job in 2003 with Trans Executive Service on the Citation and Gulfstream. He was the Director of Operations for an air ambulance company in Spokane, and then chief pilot for Island Air. From there, he moved into the training department for Hawaiian Airlines before the taking advantage of the opportunity to take over Sunquest.

Sunquest was a distressed company when their OpSpecs were suspended. Sunquest approached him and his dad when they were running an aviation consulting firm when the company lost all their key personnel and the FAA suspended their certificate. About 2 months later they got their certificate reinstated, utilizing Citations, a Lear 35, and a King Air. Sunquest was being mismanaged, and there was an internal dispute with owners. They lost their aircraft, and they decided to stop for a while before declaring bankruptcy and all the owners disappeared 2 months into bankruptcy. That left him with a Lear and 2 pilots trying to figure out what to do, so they decided to keep the company going by making him the DO and continuing to operate. He ran it initially with one Lear 35 on the certificate. The business did well, the pilots were good and they made money. The owner of the Lear was happy with the business and decided to buy more airplanes. Later, when the owners returned, he bought them out at \$1 plus all their debt, and slowly started to grow the company. His long-term plan was to build a south Pacific charter business. He said with his 2 Falcons operating in HNL, he was currently the largest Part 135 charter operation in Hawaii.

He said they were moving toward the Class II navigation with the Falcons, and the Lears had a good market that provided them a steady income since they were relatively cheaper to operate and acquire. Trans-Pacific provided reasonable pricing and reliability to their customers with no major price changes. Leading up to the accident were some of their best months for the company, getting through the growth phase to a more consistent income phase. The name changed from Sunquest to Trans-Pacific occurred in January 2017. They changed their PBO to HNL in the anticipation of getting Class II navigation authority on the Falcons.

Trans-Pacific had 10 employees. At the time of the accident they had 8 employees; 6 pilots, with 2 on the Falcon and the rest on the Lear. There were 3 SICs, two of them on the Lear. They gave the pilots 5 days off each month of their choosing, based on seniority, and most pilots did not ask for a stretch of days off. That was primarily so pilots could be available to fly and make more money. All the pilots sign a 1-year training contract, and all their pilots were employees of the company except Bill Wickens, who was an employee of another company. They tried to avoid using Bill Wickens on flights because of the cost of paying the airplane owner's override when they used him.

He said the number of flights they operated varied. They had about 16 trips in January, about 10 trips in February, about 18 trips in March, and 22 trips in April. Sometimes they had multiple flights in a day, typically only two trips at a time. When asked about his workload during busy times, he said it was easy with all the information coming in, and his wife would sometimes step in to help. She was not an employee of the company

Trans-Pacific was moving to HNL because that was where he saw their main market, and that was the reason for the name change. They had negotiating charter deals with resort hotels and were just waiting to get their authorization, and were awaiting a contract with the Japanese space agency to fly to their satellite tracking stations in the islands. They had the flexibility to operate in HNL since they leased all their airplanes and could move them to wherever they needed them.

They will have Class II navigation authority by September 6, 2017. At the time of the accident, they had no OpSpecs for HNL operations, but were trying to push that through with the FAA, and there were no pilots based in HNL. When asked if pilots were trained in HNL, he said yes, they did their basic indoc and emergency training there.

At the time of the accident, the certificate was overseen by the VNY FSDO. The DOM was in the process of moving to HNL, but refused to move to HNL so they got a new DOM who was in DOM, but planning to move to SFO.

Their business came exclusively from the several brokers they worked with. For the accident flight, that was also through a broker. They usually just did primary charters, and occasionally would do back-haul charters. When asked if the company charged for empty legs as well, he said “we charge for everything,” and the charter for the accident flight was also charged for the empty legs of the trip. When asked if the company was compensated for all three legs of the accident trip, he said “correct.” The repositioning flight from TEB-BED was Part 91, the BED-PHL flight was Part 135, and the PHL-TEB flight was Part 91, and Trans-Pacific was compensated for all three legs. When asked if the compensated flights operating under Part 91 were contrary to the regulations, he said if they were then every operator was guilty of it, and he thought it was not based on the compensation. When asked if the accident flight was contrary to their OpSpecs A001, he said “that was a good question” and he would have to look into it since that was a common industry practice. They used Part 135 duty times for rest requirements even when the trip included Part 91 repositioning flights.

He said his airplanes did not have flight data monitoring systems onboard, but did have CVRs.

Currently the company had 5 airplanes on their certificate; two were in HNL and the other three in VNY. The pilots conducted simulator training at CAE Simuflite in Dallas, and used CAE instructors and evaluators.

He said the charter coordinator essentially sold and booked the charters, and might assign pilots charter flights. He and Jonathan had operational control, and involved a 2-tier system which included looking at the release and the legality of the pilots and aircraft. The pilot would then look at flight specific information like the weather, rest requirements, TSA clearance, etc. The

flight coordinator position mentioned in the GOM was the same as the flight coordinator, and was left in the GOM through multiple revisions.

Trans-Pacific did not have an ASAP program. Prior to the accident, most of their SMS implementation had been done and was waiting on the POI to stamp his approval. They had multiple requests in with the POI, including adding aircraft, Class II authority, and base move, and did not want to overload the POI.

They planned on using Argus for monitoring their risk assessment tool, but were now going to use ARINC since they did all of their flight planning now. Their risk assessment was an online portal, and provided a risk score for the flight. The pilot would input information to get a risk score. At the time of the accident, they had no risk assessments for their flights.

They did not have a formal voluntary safety reporting system, but had an open-door, non-punitive policy, and pilots would come to him if they had any concerns. That would happen about once a month. A recent concern was over a crew pairing. Trans-Pacific ended up swapping pilots. Another one was in June when one of the pilots was concerned with a high-altitude airport takeoff. In response, they pushed the departure back for a cooler temperature. Another pilot had a concern about approach minimums. They had to explain the requirements to him because he had mistaken the height above touchdown for the height above the airport. They had no problem cancelling a flight if a pilot was not comfortable.

He had ridden on several of the company flights, primarily to watch the crew and the interaction between the pilots. He also would ride over to HNL to observe the oceanic operation. He had ridden on the Lear before, but they were more difficult to schedule. His most recent Lear flight was last month on a short hop to LAS. Had not ridden on a flight with either accident pilot.

They did not have a FOQA program, and did not have a flight data monitoring program. When asked if they had any means of monitoring the pilots to ensure they were complying with SOPs, he said that was something they had been struggling with, particularly on the Lears. Right now, they only had the pilot's 135.299 checks to monitor their compliance. They did not have any check airmen who could conduct a 135.299 check ride.

The Falcons were easier to ride on for observations of the pilots. For the Lear, he said he did not have the ability to check the pilots on a regular basis, and no way to observe the crew since the Lear did not have the staffing and the Lear did not have a jumpseat. One solution they were considering was to get rid of the Lears. The airplane was getting older and too hard to monitor, and they were having trouble finding Lear pilots to fly them. The Falcon fit their business model better, and they were also considering obtaining a Citation.

He hired Will Ramsey in July 2016. His background included flying for D&D aviation for the majority of his aviation career. D&D had Will flying the Beech 400's when he hired Will on a friend's (D&D former Director of Operations) recommendation. He had called his friend to inquire about Will, and his goal was to eventually staff the accident airplane from SLC. They had tried to hire other pilots in the SLC area, but they had trouble with the training, so he wanted to make double sure that Will could fly. They did a PRIA background check on Will, but never

received any formal documentation from D&D. He said he had found that typical for smaller operators. They did do an FAA certificate check and background check through ARGUS to see if the pilot had been involved in any accident. Since the accident, they had switched from ARGUS to Wyvern for background checks.

He had never observed Will or any of his pilots during simulator training, and relied on the CAE evaluator's assessments. He had never seen Will operate as a pilot. He had not received any negative feedback on Will, and had heard Will was smart and had his act together. The POI also told him that Will was book smart. There was nothing glowing about Will, but nothing negative.

When asked if he was aware of Will's training difficulties, he said yes, and that Will was weak in the circle approaches, so they gave him additional sim time. Originally, Will was scheduled for 14 hours of sim training plus the ground school. They ended up giving about 19 hours of sim time, but he'd have to double check the records to be sure. CAE gave him notification of Will's training difficulties. They told him it involved the circle approaches and maintaining altitudes. He said they chalked that up to the fact that Will was coming off a different airplane. When he finished training, they had him fly SIC for a few months initially until upgrading him to captain.

When asked if it was unusual for a pilot already type rated on the Lear to have that much difficulty in training, he said that they were finding out on the Lear that pilots would have difficulties in training when they had not flown it in several months, and they had gotten used to seeing that since it was an older airplane with older avionics. That was the feedback he would also get from pilots. He spoke to their representative at CAE, and was told that was something they saw frequently on the Lear.

When asked if there were any complaints about Will, he said that Courtney would tell him Will's paperwork was out of line and he would talk back to her. The general feedback was that the pilots enjoyed flying with Will. Will did not have any discipline issues.

He interacted with Will every flight briefly, and communicated by email. On the day of the accident, they talked about cheesesteaks. Will never gave him any trouble, and just got the trip done.

He said he hired Jeffrey Alino, who had come from an air ambulance operation in New Mexico. When asked if there were any concerns voiced about Jeffrey, he said yes. It was not necessary his flying skills but his organizational skills and SIC work. Jeffrey had difficulty talking on the radio and difficulty communicating. He also had difficulty retaining knowledge for his 135 oral exam. They originally placed him with a pilot that had come from the same operator, Mike Farb who quit in December 2016, and they did not get along so he separated them from flying together. They had seen that the two pilots had significant CRM issues, and brought both pilots in to "reacquaint" them with the company CRM policies. The problem was resolved when they separated them.

They gave Jeffrey quite a bit of additional training, both in the sim and between himself and Jonathan. They also had Leif provide him additional training. They told Jeffrey that they needed to see some improvement by January, and the feedback he got was that Jeffrey made marked

improvement. Leif told him that Jeffrey was at the point where he would not be a burden to other pilots, so they began scheduling him to fly with Will in January 2017, and that went well. They wanted to monitor Jeffrey, so they prohibited him from flying until he could master his SIC duties.

Jeffrey needed one additional sim session at CAE. They usually saw that with pilots that were weak. They had sent Jeffrey for a 5-day course since he was already Part 135 qualified. When asked if Jeffrey's training difficulties as a current and qualified Lear pilot raised any red flags, he said "yes, it raised a caution flag to us." He said he and Jonathan spoke about it, and they were comfortable since it was only one extra sim session, and they would continue to mold him into a better pilot.

Jeffrey was based in VNY, and rented a room from a flight attendant in Valencia. They thought about creating a base in New Jersey, but gave up on that idea. Jeffrey also used their company car when in VNY, but he often flew back to New Jersey. They had discussed transferring Jeffrey to the Falcon as a "carrot on a stick" to motivate Jeffrey to do well, but that would have been voluntary move on Jeffrey's part. Jeffrey probably just did not like being based in California.

Jeffrey never mentioned he was unhappy with the company. Another pilot told him Jeffrey had accepted another position with another operator. He was not aware that Jeffrey had been hired by another company, and was scheduled to start training on a different airplane a week after the accident. Jeffrey had not notified him of his new employment.

Jeffrey had quite a bit of problems flying with Bill Wickens, and added that all their pilots had problems flying with Bill Wickens. Will Ramsey did not have any problems flying with Bill Wickens since they had flown together at D&D aviation.

He said the intent of the SIC-0 policy was to provide SICs to grow and master their duty position, and as they moved up they would be ready for upgrade. The concept was borrowed from Trans-Exec. He had gone through that process there, and he thought it made the upgrade to captain much easier. The policy at Trans-Pacific had been in place since 2014 in one form or another.

They wanted their SICs to do well since they were typically the weakest on the SIC skills and radio skills, and those were things they were seeing consistently with younger pilots. They just had another SIC go through training that had "atrocious" radio skills, and wanted him to get proficient in that. They wanted them to get their SIC duties down first adding additional responsibilities. There were no currency issues since the SICs were not operating as PIC. They tried to assess them at least once a month, and give them at least one landing per month. Moving up the tier was made based on the recommendation from other pilots. They would then have the SIC fly with another pilot for evaluation. Jeffrey was still an SIC-0 since he was still weak on the radio and organizational skills, and he was behind the airplane. He said Jeffrey was improving, and he thought Jeffrey would be moving to SIC-1 the month of the accident and allowed to fly empty legs from the right seat.

When asked about consolidation of learning, he said it was essentially taking the training and applying it to line operations. It was important, but they felt the training did not end when the pilot left the sim, and they would see issues with the SICs that were not taught in the sim, like radio skills and clearances. They used the SIC-0 process as an initial assessment of the pilot's skills, and was an initial learning process. Some pilots moved up rather quickly depending on their skills. There was no formal consolidation of learning process.

Their flights were tracked through Flightaware, and via text messages or emails on landing. He wanted them to do that for both 91 and 135 flights, although the manual said it was only required for 135 flights, mainly to track the airplane's availability.

He expected the pilots to conduct a weight and balance on every "live" flight, or flight with a passenger, but there was not an expectation on 91 flights. For 91 flights, they would just record "91" on the flight log and not fill out the weight and balance.

He said the SOPs outlined in the SOP manuals were to be completed regardless if the flight was 91 or 135. Some things, like catering activities, may have different SOPs that were not applicable for 91 flights.

Their pricing for the charter involves being compensated for all three flights. He did not believe that was contrary to their OpSpecs. He said everyone, including the FAA, had told him that empty legs were Part 91 flights.

He interacted with the FAA regularly, especially since they had multiple request in with the FAA. He was not aware of the FAA ever riding on one of their airplanes outside the line checks, and did not know of any FAA enroute inspections being done.

He said the most challenging part of his job was the fact that they had a plan in place, and were trying to execute it, and it had been an uphill battle. He also was balancing the pilot needs in a very competitive pilot market. Growth had been restricted by the pilot supply.

The most rewarding part of his job was his love of aviation. He enjoyed writing the GOM, and got a kick out of scheduling flights, and it was almost like a hobby.

They tried to keep their pay in line with other operators. The captain pay was about \$75,000 and the SIC pay was about \$45,000. Lear pay was standard, but the Falcon pay was a little lower since they were just getting them launched. He said it had been absolutely impossible to find Lear pilots. Some operators may pay a little more, but they also work them more.

When asked about the hiring process, he said they would have a preliminary conversation with the pilot, and then would schedule a formal interview that was a mix of professional, technical and personal questions. During indoc training, they would monitor them for their behavior and professionalism. They did not do an aptitude assessment of the pilot.

If they saw a pilot having training difficulties in indoc, if they were making the effort they would continue to train them. For the sim training, they would give them a fix number of sim sessions

based on what they thought their qualifications were, and take into account the CAE instructors assessment if they could complete the training. If they cannot finish the training based on that, they would “wash them out” of training. They had to do that twice last year with SLC pilots hired at the same time as Will Ramsey. One washed out at indoc and the other during sim training. Training costs were about \$14,000, plus hotel rooms and other costs.

Flight crew standardization was easy to monitor on the Falcon since it was easier to observe the crew on the Falcon. On the Lear, they mainly relied on the information disseminated by Leif Iverson, who was their assessment pilot.

The FRAT will be through ARINC, and the SMS would be through their own manual. They would like to have an ASAP program in the future.

For the size of the company, they would like to have 8-10 pilots and keep the fleet to about 3-4 Falcons, maybe keep one Lear 31. Pilot recruitment was based on recommendations, while some others would apply directly with the company, which is how they learned about Jeffrey. Will Ramsey was hired based on a recommendation from Bill Wickens.

There had been some changes in the company since the accident, which included changing the weather requirements for SICs and more stringent requirements to act as a pilot flying, and pulling the trigger on SMS. They had also done enhanced training in low speed flight and recovery. The insurance company mandated that training for reasonable insurance rates.

They had also implemented a line observation assessment process, which would be conducted on a random basis. Prior to moving up to a new SIC level, they would have to go through an IOE-like process for 5 hours where watched by Jonathan or Leif. Their safety officer made that recommendation.

Data recording would not be feasible on the Lear, and the installation would cost more than the airplane was worth. The Falcons had provisions to install data recorders, but none were installed. They had also gone to ACARS off/on times to better track airplane movements.

Indoc training in HNL was conducted by Jonathan or himself. Their indoc training lasted for 5 days. For the CRM portion, it covered two hours, which included the LIT accident case, and talked about CRM and work saturation and communication skills.

He said Jonathan did not do much operational control since he was flying the line more than in the office.

Asked what changes he would make if he were king for a day, he said they should be assuring the pilots get more training in line operations. One Falcon pilot came out of sim training with almost no radio skills or ability to copy a clearance. There seemed to be more training the pilot to pass the check ride as opposed to training for actually flying the airplane on the line. He suggested they train with more real-world scenarios, similar to a LOFT.

He said the SICs coming to him were getting lower and lower in experience with the pilot shortage. They were lucky to see an SIC candidate come to them with an ATP, and most only have a commercial certificate.

Both Will and Jeffrey had been through their CRM training.

Interview concluded at 1616.

17.0 Interviewee: Leif Iverson, Trans-Pacific Lear Captain

Date/Time: August 18, 2017; 1230 PDT

Location: Castle and Cooke Aviation conference room

Present: David Lawrence, Bill Bramble – National Transportation Safety Board (NTSB); Jim Warniers – Federal Aviation Administration (FAA)

Representative: declined representation

During the interview, Captain Iverson stated the following:

His name was Leif Matthew Iverson, and he was 38 years old.

His title was line pilot, and captain on the Lear and Falcon for Trans-Pacific. He was hired about a year and 3 months ago as an SIC, and upgraded on the Lear. His roles and responsibilities included initiating Part 135 and 91 flights, conduct the flight in an appropriate manor, and ensure the crew and passengers were safe. His background included working as a mechanic with his A&P license for about 5 years before he pursued an aviation degree through the extended campus Embry-Riddle at the military base at Pt. Magu. He worked during the day and took classes at night. He did his flight training with Channel Islands aviation, and then became a flight instructor there for about 6 years to build his flight time. He personally enjoyed flight instructing and it was a good quality of life for him. He burned himself out of flight instructing, and took a job with Ryan and had been there ever since.

He said Trans-Pacific was formerly Sunquest, but he did not know a whole lot about the company history. Sunquest did previously have an accident that he was aware of. Trans-Pacific was a newer and smaller company, but did grow beyond Ryan's personal expectations, and may have grown to about 10 airplanes but the operations had slowed down since the accident, and the company was beginning to focus more on the HNL operations.

He primarily flew Part 135 flights, with some Part 91 flights for repositioning. He also flew Part 91 cargo flights in the islands, and would occasionally fly the Lear owner, David Parker. He said 90-95% of their flying was Part 135. When asked about his schedule, he said it was Part 135 on-demand, so they could ask for hard days off, but were on call 24/7.

His workload did not involve as much flying as when he started, when he was flying about 15-20 days each month, and he never felt pressured to fly by the company. When asked if he felt supported by the company, he said yes, for the most part. Ryan would never pressure him to fly, but it was Ryan's job to give him a trip, and his job to tell Ryan why he could not fly it, and that

led to some frustrations. An example was when he just got back from Falcon training and only had 2 hours in the airplane, and Ryan wanted him to fly PIC on a trip. He told Ryan no since he needed to feel personally comfortable in the airplane first since he just finished training. Ryan was frustrated, but eventually supported the decision.

When asked about the safety structure at the company, he said it was not bad. If it were his company, he would want to see more training on safety aspects. They did a pretty good job of going through safety during indoc, and the airplanes were pretty well maintained. He said they were really old airplanes, and as such, you really needed to have a strong maintenance department, and personally he did not see that at this company. It would be nice to have a full-time maintenance department like other Part 135 operators. It was also better when they had a DOM around so he could speak with him on maintenance issues, and that was not the case currently. He did not have any other concerns with the company.

He said he knew Will Ramsey, and they had flown together and he had spent 2 weeks with him in Nicaragua. Will was extremely book smart, and he was also a flight instructor so they shared the same knowledge. He said flight instructing was a necessity to help with book knowledge. Will's flying abilities were good, and he did not see anything abnormal. He recalled a time flying into Brownville, Texas where Will overbanked the airplane from base to final. They were both captains at the time, but Will was in the left seat and the flying pilot. It made him nervous, but Will was able to pull it off and make the landing.

He said Will was up to standards and had the ability to operate the aircraft, but he was not a superb pilot. Will had the ability to be safe and efficient with Lear jets. When asked if Will would require a competent SIC in the right seat, he said yes. He said the accident crew was not perfectly matched. Will had his weaknesses, as did Jeffrey, and in his opinion putting those two pilots together was not a smart decision. He said he was available, and could have flown with either one of them on those flights. He was not sure if Ryan or Jon were aware of either pilot's weaknesses.

He said Will's professionalism was good. Will was safe and would run through checklists. There was no inappropriate chatter in the cockpit. When they flew together, he was a strong SIC and he would stay ahead of the airplane when flying with Will. He could see both pilots getting behind the airplane if they flew together. The Lear was an older, antiquated airplane, and required staying ahead of it.

He did not do many 91 flights, but thought Will would have conducted a 91 flight in the same way as a 135 flight.

He flew a few times with Jeffrey Alino, mainly in the later portion of Jeffrey's career. He was aware of Jeffrey's struggles staying ahead of the airplane, but when they flew together he saw significant progression from Jeffrey. They did a flight together, and Jeffrey did a really good job and was becoming an effective FO. The last time they flew together was a couple of months prior to the accident. Jeffrey primarily flew with Will, but did do some flying with Bill Wickens.

Will was supposed to be one of the pilots to be based in SLC, but that did not materialize, nor did the Morristown, New Jersey base. Jeffrey and Will were realistically based in VNY, and the plan was for Jeffrey to move to VNY.

Jeffrey's abilities were progressing, but he only saw Jeffrey for a handful of flights. He did receive similar comments from other pilots. For example, Lee Crompton would tell him stories about basically having to fly single pilot when Jeffrey was in the right seat and did not know what to do. He told Lee that Jeffrey was new, and he needed to work with Jeffrey and mentor him and give Jeffrey time to progress. His personality was different than other pilots, and he liked to see the positive in someone, which is why he asked Lee to continue working with Jeffrey.

Bill Wickens was a difficult person to work with in the cockpit, and the paring of Jeffrey with Bill's aggressive attitude was not a good combination. Jeff appreciated him talking slowly and not overloading him, but that was not the case with Bill.

Jeffrey never mentioned any problems flying with Will. They were slowly moving toward alternating legs, and it seemed that they were working well together. When he flew with Jeffrey, he would let Jeffrey fly portions of the flights occasionally, but not a landing.

He was not aware of any of Jeffrey's training difficulties Jeffrey had from CAE.

When asked about Jeffrey's assertiveness in the cockpit, he said he did not believe Jeffrey would have ever questioned a captain's decision in the cockpit, and was not sure Jeffrey was even comfortable with his own decisions. He believed other pilots like Bill Wickens may have demoralized Jeffrey when all he needed was some positive reinforcement. He did not know if Jeffrey was getting that from Will, and did not know if Jeffrey would have questioned Will in the cockpit. He thought Jeffrey was not comfortable with his own abilities, so to question a captain would have been foreign to him.

When asked if he thought Jeffrey was intimidated flying in the Lear or with the captains at Trans-Pacific, he said yes, and that Bill Wickens likely intimidated Jeffrey. He said he had flown with Bill Wickens a few times, and felt uncomfortable enough flying with Bill that he told Ryan he did not want to fly with Bill. Jeffrey also had asked not to fly with Bill, but had also mentioned that he enjoyed flying with Will.

Jeffrey would accurately complete the checklists, though he would miss a few items occasionally, but that was not that unusual. Jeffrey did have difficulties talking on the radio, and would have awkward moments on the radio, primarily because he was going from flying small airplanes to operating in busy airspace and not used to having to use proper phraseology. He occasionally would miss items on a clearance, but by the time they flew together, Jeffrey seemed to be doing good job.

Jeffrey was a lot younger, so he did not expect him to be that mature, and did not seem anything alarming with his maturity. Jeffrey would get behind occasionally, and he would help him out. Once they shot an approach with a DME arc, and they were in IMC conditions and he was a little

nervous but Jeffrey seemed to be having a good time and may not have appreciated how the procedure of the arc was being done. He had not done any circle to lands with Jeffrey, and would image Jeffrey would struggle with a circle to land. The approach they used in the simulator was the same one every time, and the instructors taught the approach so it was easier to conduct and not realistic to real world conditions.

With regards to the SIC-0 policy, as a new hire FO, they were placed in at an SIC-0, meaning they could not fly the airplane unless they were with the chief pilot. Once they were evaluated, an SIC could move up the tier. He was not aware if Will was one of the pilots who could evaluate an SIC to move up, and thought maybe Jonathan was the only one, even though Jonathan was not rated in the Lear.

Jeffrey being an SIC-0 meant that he was going to need significant supervision. The SIC would also need better weather conditions to fly in unless under supervision. He said Jeffrey would need ideal conditions when they flew together, but that had been months earlier, and Jeffrey was primarily flying with Will. Jeffrey needed help with his landings. His climbs, enroute and descents were fine. Jeffrey's landings were an issue.

Jeffrey's instrument approaches were pretty good so long as someone was watching him. He did mainly precision approaches with Jeffrey, and thought he might have difficulty with non-precision approaches. When asked if someone of Jeffrey's skill level increased the workload for the captain, he said absolutely it did. Lee Crompton even commented on that when he flew with Jeffrey.

He did not voice these concerns to Ryan, but Lee did several times. He was not aware of any changes coming out, and thought the company may have placed Jeffrey with someone who could be more of a teacher and mentor. At the time of the accident, Trans-Pacific did not have any Lear SICs that were above an SIC-0.

When asked if Jeffrey was ready to move up from an SIC-0, he said that would have been a question for Will. As far as the last time he flew with Jeffrey, he was not quite ready to move up yet.

He said Jeffrey was unhappy and he was on the way out the door. He wanted to stay in New Jersey like he was hired for originally, and was asked to move to VNY, which would have been difficult on FO wages. He said Jeffrey appeared frustrated.

Jeffrey did not have any issues with any of the other pilots other than Bill Wickens. He did not know if Jeffrey had any issues in his personal life, and did not see any chronic stress. He did see some acute stress in Jeffrey with the pressure for him to move to VNY.

He did talk about Jeffrey's progress to Ryan, but not Jonathan. He had an open dialogue with Ryan. Ryan had wanted to work with Jeffrey rather than terminate someone based on their inexperience.

When asked how often he communicated with Ryan and Jonathan, he said for Ryan it was frequently, but for Jonathan it was non-existent. He did not think Jonathan was an effective chief pilot. When asked if Jonathan was an effective chief pilot to Will and Jeffrey, he said he did not know. There was very little if any communication from the chief pilot to the other pilots. The newer pilots commented on the lack of communications as well. An example was that there was a pilot hired in May, and he just met that pilot, and thought that was inappropriate to take that long.

When asked if he ever voiced a safety concern to Ryan, he mentioned how maintenance had handled the engine failure out of LAX awhile back. They were not told about the issues from maintenance and the engine “grenaded” on takeoff. This was a flight where he was an SIC. He did not know if the Ryan or the DOM knew about the engine problems ahead of time. It was on the accident airplane. When they picked the airplane up another time, there was a vague MEL regarding the windshield heat, and the captain wanted to make sure he was legal to MEL the item. There was a discussion between Ryan and the captain, and the captain was eventually terminated for not flying a subsequent trip.

He said Will seemed happy. When asked if Will would swear in the cockpit, he said every now and then, but not below 10,000 feet. He was not aware of any financial or personal issues going on with Will. Outside the cockpit Will would sometimes swear, but not really in the cockpit, and he would stop the conversation if it got too unprofessional in the cockpit. He would have to do that often with Bill Wickens.

He did not see Will being susceptible to stress in the operation. He thought Will handled stress “really well.” He had seen other captains get very stressed out, but not Will. During one significant delay for takeoff they had in VNY, Will seemed calm and handled it well.

When asked if Will had problems anticipating what to do for a non-precision approach, he said sometimes, but he had only done a handful of non-precision approaches with Will. He added that Will would catch up eventually.

When asked to describe Jeffrey’s performance compared to other first officers of similar experience, he said the only person he could compare Jeffrey with was Aravinda, and Aravinda was a pretty solid first officer. It was hard to compare. Everyone had a different skill set. Aravinda was pretty strong in all aspects. Jeffrey was just a different individual. Aravinda was stronger.

When asked about a Bill Wickens comment that Jeffrey did not belong in the cockpit of a jet, he said he did not agree with that comment, and Bill said that about everyone and people should take what Bill Wickens said with a grain of salt. Bill did not want Jeffrey flying with him, and wanted someone who would just do all the work for him. To say Jeffrey did not have a place in the cockpit was a ridiculous statement. Jeffrey had potential to be a qualified pilot, and he just needed a little more TLC and time.

Regarding his CAE training, he had been back to Dallas about 4 times with the company in the last year and 3 months. He never had to repeat any check rides. He got through Falcon training,

but felt behind since it was a more complicated airplane. Ryan had him go through an in-house SIC training for the Falcon before he went to CAE for the upgrade. He would have rather gone through a full initial course on the Falcon to be better prepared.

Pilot pay was not terrible, but it was expensive in California. That was not Ryan's problem, and he dealt with it. An issue were the expenses he incurred on the road and getting reimbursed. He said the salary was on the lower end, but he did not complain about it.

The FO experience he saw was typical. Ara was one of his former students, he knew him, and they worked well together. It did seem like the FOs had low time, although Jeffrey walked in with more jet time than him, and had already flown the Lear so he was more experienced on that airplane.

He said the company did a pretty good job with standardization of SOPs. He thought the material in indoc training could be presented better. Ryan did a good job, and it was effective for some individuals, but he thought it could be presented more efficiently.

When asked about their CRM training, he said they could have used an additional 3 days for training since their current CRM training was "mediocre, to say the least."

The last time he interacted with either pilot was in TEB a couple of weeks prior to the accident. After repositioning the Lear to the east coast. At one point, they were all out there together in Secaucus. He had a run-in with them when they took a car that was under his name and left him at the hotel. He got upset with them, and regretted that now.

He was not aware of any health issues with either pilot. He did not have any phone calls or text messages from either pilot in the 72 hours prior to the accident. He did not think Will drank, and thought Jeffrey may have, but not a lot.

He had never flown the circle approach into TEB, and it was always a standard ILS.

He did not spend too much time with either pilot, but neither expressed a concern to him about something going on in their lives. Jeffrey was extremely friendly, and the accident was unfortunate because Will was also a great guy. Will made their trip to Nicaragua better for him, since he was fluent in Spanish.

Interview concluded at 1342.

18.0 Interviewee: Mike Hoffman, FAA Principal Operations Inspector

Date/Time: August 18, 2017; 1400 PDT

Location: Castle and Cooke Aviation conference room

Present: David Lawrence, Bill Bramble – National Transportation Safety Board (NTSB); Jim Warniers, Bob Hendrickson – Federal Aviation Administration (FAA)

Representative: Matt Smith, FAA General Counsel's office

During the interview, Mr. Hoffman stated the following:

His name was Michael Jay Hoffman, and he was 50 years old. His title was aviation safety inspector specific to operations at the VNY FSDO. His roles and responsibilities included being a principal operations inspector with oversight of Part 135 air carrier operators, looking at their training programs, their GOM, their flight and line checks, and compliance inspections. He did other things other than oversight, which included accident investigations, CFI check rides, airshow oversight, Part 91 on-demand work with RVSM, and counter duties and certificate issuances.

At time of accident, he had 8-9 Part 135 certificates he oversaw, and all were Part 135 on-demand operators. Some did not have any 135 operations, and needed to maintain a certificate. The most complex certificate he had was Trans-Pacific. He had another Gulfstream operator that was complex based on the type of international operation they conducted.

When asked about Trans-Pacific, he said he looked at their training manual and lessons once a year. They were not required to look at their entire training program, just a sample of the training. He reviewed the GOM and accepted the GOM as opposed to approving it. Accepting meant that they did not have any formal process that is required prior to the operator using the manual, and there is not much government liability for items that the accept versus those that they approve. He also reviewed their procedures and policies. He thought they may have had 5-7 pilots, and they may have had about 4 or 5 airplanes. He said at the time of the accident, he had oversight of the Trans-Pacific certificate.

He said he had the opportunity to interact with their pilots, primarily through conducting most of their 135.293 testing, which was specifically the air carrier's specific information versus general aircraft testing. He tested them after indoc and during recurrent each year. He would also conduct 135.299 line checks if they were recurrent checks. For an initial line check, the person would have to be current and type rated in the airplane, but he was not certain about those requirements.

He was not familiar with their hiring process. When he talked to Ryan, he told him that they had advertised on www.climbto350.com, which was a website for applications. Ryan also mentioned that he was having a difficult time finding qualified pilots.

When asked about the skill sets of the pilots Trans-Pacific was hiring, he said the pilots hired for captain positions had a "pretty good" background and experience on their resume. Their knowledge when he tested them was average. The co-pilots he hired seemed "fairly green," but some did better on testing since they studied harder. Most of the copilots he saw were in the "average" range. He said that was typical for the 135 operators until you get to the more complex operators like the Gulfstream operators, who tended to have a different skill set and more experience.

He said there seemed to be a lot of turn-over of pilots at Trans-Pacific, and that could be considered a red flag. It could trigger increased surveillance through a SPAS party index, but that had been phasing out in place of SAS. He's not sure if that would have been flagged in

SAS. Another option would be to just go out and look at the operation more frequently, which he said he had done by primarily looking at their records and not necessarily riding on flights. He said that for this situation, he was not sure if he would necessarily conduct additional random checks. There was a turn over, but he was not concerned, and did not do anything special other than looking at the PRIA records. He was not involved in the hiring process, and did not conduct exit interviews. All he could look at was how the pilots were trained and checked.

He said Trans-Pacific was involved in a past incident at LAX involving a Lear that on which the generator “FOD-ed” on takeoff. The operator had brought the aircraft to a maintenance facility and did a run-up, then notified the company that the generator had excess vibration and was an impending failure. The DOM came to ALX and said it was good to go. There was an issue communicating the return to service, and they asked a pilot to accept the aircraft, and the generator exploded on takeoff. The pilot contacted him and was very upset that the company had not told him there was a prior issue with the engine. He thought there may have been another incident, but could not remember.

The company trained their pilots in VNY until the certificate was moved to HNL. He had sat in on the company indoctrination, and the last time was maybe a year ago when they first moved to Hawaii. The pilots received simulator training at Simuflite. He had never been to Simuflite to observe their training since it was not a common practice for inspectors to do that.

He said the air carrier certificate was issued to the operator, and held at the company’s PBO. VNY had the operational oversight of the air carrier. In his opinion, that was not typical, but he was seeing more and more that an operator would have an office in one place while their operations were all over. At the time of the accident, Trans-Pacific did not have any pilots or aircraft based in HNL. They did fly international to Canada and Mexico, and were in the process of adding Hawaii and Class II navigation. Their PBO was HNL at the time of the accident. The oversight of the operations changed to HNL after the accident. The VNY did not have any issue with the oversight transferring to HNL since that was where most of their training was being done.

He said he talked to Ryan about once a week when he had oversight of the operation. He did not talk to the chief pilot frequently since he was not a liaison to reach out to. He said he never looked at an SMS program, but the operator may have been using one. He did not know if Ryan had listed himself as the Safety Officer.

Trans-Pacific did not have a formalized VDRP voluntary reporting system.

He had met both pilots through their training and checks. He did not remember when he last saw the captain. The FO was in training in HNL, and he saw him on his 135.293 check and first put on the line about a year ago.

When asked if anything stood out to him about either accident pilot, he said Jeffrey was great for his first jet position. Jeffrey was “gung-ho” and enthusiastic about the position. He was cordial, nice and friendly. He came across as answering a question before thinking rather than thinking before answering.

Will Ramsey had more experience in a different mix of aircraft. Will was guarded with him, and had that “adversarial relationship” with him since he was from the FAA.

On Will’s line check, he observed him and debriefed him on a circle to land maneuver on the Lear after he turned off the yaw damper. It should only be turned off in the landing flare. The other debrief item was CRM, and standardizing his callouts rather than using plain language. He needed to be standardized, since it was common in the 135-world that callouts become less formalized because pilots tend to fly with the same guy more frequently than in the 121-world.

With Jeffrey, he would have to look up a lot of things, but sometimes it he found it difficult to find things in the manual. He thought that was because he did not have the background and experience level.

He did not do enroute inspections for Part 135 operators. That was because the operator would not like it on a revenue flight, and it is also a one way, and they would have to commercial back. It was also an on-demand operation, so it would be difficult to schedule. The FAA had a code for doing enroute inspections, but he did not know of any inspectors doing enroutes on Part 135 on-demand operators, but it was not prohibited.

When asked how the FAA or an operator knew that their pilots were complying with SOPs during normal flight operations, he said he could meet the airplane and do a ramp inspection, but if it was departing, it was more challenging since it was their job to interfere with the operation and they could only observe the crew and not interact with them. He said you would never really know if pilots were complying with SOPs for every flight. The main method typically used was through the 135.299 line check for the captain. FO’s were not required to have a .299 check. They had a .293(b) check, and that was typically done in the simulator.

When asked about the Trans-Pacific SIC-0 policy listed in their GM, he said he was not familiar with it. He had heard about the policy about an hour ago. When asked the importance of consolidation of learning, he said he did not know, and that was an upper level management decision. He did not think pilots should be flying Part 135 operations with passengers right after simulator training so they could get used to the switches and buttons and controls, and generally get comfortable and proficient with the airplane before being put in a position to flying passengers under the supervision of the PIC.

There was no experience requirement or IOE requirement in Part 135 unless they are receiving their first type rating. It was not IOE similar to the Part 121 world.

When asked if there had been any special surveillance activities conducted on Trans-Pacific before or after the accident, he said there may have been some inspections after the generator event. For operations, he had no special surveillance activities for Trans Pacific.

He did not remember if Will Ramsey turned the yaw damper off on his line check or commanded the yaw damper off. He just knew it was off during the approach.

He said his relationship with Ryan was amicable. Ryan did have complaints about the backlog of acceptance items, and they basically “buried us in paperwork.” Trans-Pacific was his highest workload since they were giving the FAA so many things to address and they could only handle one thing at a time. He did not know why they were sending them so much to accomplish, but most of it dealt with the Class II, EFB, adding the Falcon and conformity, MELs, Lear checks, pilot checks, and the change of the PBO to HNL. He said it was “snowballing.” He did not know the current status of those items since he stopped being the POI about 2-3 months ago.

When Ryan put in the request for their maintenance oversight to move to HNL, they wanted the operator to move first and so they would not have too many pending change items during the move. They needed to do the move first, then work on the changes, and Ryan agreed to make the move to HNL first before addressing the outstanding requests.

He had been the POI for about 5-6 years.

He was not aware of Trans-Pacific setting up an SMS program.

He said he had one pilot issue a complaint with regards to the generator issue in LAX, and he had conversations with pilots, but never had a whistle-blower complaint filed. The off-record conversations did not involve either of the accident pilots.

He said CAE used contract check airman for checks on Trans-Pacific pilots, and they would receive 2-year checks from their TCPM. He had never observed one of those checks.

He had sat in on their training courses, and said the CRM training was conducted at Simuflite. They did not talk about CRM when he observed the in-house Trans-Pacific training.

He had sat through the HNL training, and did not recall seeing them conduct CRM training.

If one of the Trans-Pacific pilots were having repeated training difficulties at CAE, he would not necessarily be notified unless it was a failure of a checking event, not a failure of a training event. He did not have any notification of recent checking failures.

His background included being a CFI and contract pilot on small aircraft up to a Lear jet. He flew charter for a while and went back to instructing before joining the FAA. He was type rated in the Lear but not the Falcon.

He was notified of the accident from a friend who called him. He thought he learned about it from the maintenance side of the house in the break room when he was told. He tried to get the details of what happened. He was not sure if they were in the process of transferring the certificate to HNL, and his timeline may have been off and HNL got the first notification since he may not have had oversight at that time. He had not talked to Ryan about the accident, which made him believe he did not have oversight at the time of the accident.

He did have a conversation with Ryan afterwards, and was told by Ryan about the CVR. Ryan told him that Ramsey took the aircraft from Alino, and Ramsey told Alino “let me show you how’s it done.”

He was not sure what happened with increased oversight for an operator following a fatal accident since he never had an operator have a fatal accident, and would go look to see what was required.

He started with the FAA in 2006, and began as an assistant POI before becoming a POI for about 8 years.

The only significant event he could remember specific to the accident crew was the failure to turn off the yaw damper in a circle approach by the captain since that should never be done on a circle approach. It was an item of concern that he debriefed.

Interview concluded at 1505.

19.0 Interviewee: Ed Wandall – Director, Safety Analysis; ARGUS International, Inc.

Date/Time: November 6, 2017, 2017; 1300 CST

Location: via telephone

Present: David Lawrence, Bill Bramble - National Transportation Safety Board (NTSB)

Representative: declined to be represented

During the interview, Mr. Wandell stated the following:

When asked about the difference between Gold, Gold Plus, and Platinum ratings for operators, he said each level represented a level of due diligence, and each one built on the other. There are three rated levels, and a couple of ones not rated. He said the ratings are a strategic view of the operator, and the TripCheq was the tactical view, specific to the flight the charter customer was going to take.

Gold rating was a look at a 10-year history of the company look, and the looked at all significant accidents and incidents during that period of time, and any certificate actions taking against the company by the FAA. Most of their clients were U.S.-based. Though ARGUS was global, it was the same process if they were U.S. or international operators. They favored the most recent 3 years since those were considered current events, and were scored heavier. The 36 months was a good indicator of what’s going on with an operator, and they tracked it and it showed in the reports, then after 10 years it is not analyzed in the ratings. They compare to own peer group,

broken down into peer groups, and compare to other operators with similar equipment and operations. They looked at 3 and 10-year periods, looked at the history of industry like business jets, see if they are flying with one standard of deviation using statistical tools, and see if an operator falls within the score range which allows them to continue with the rating process. If an operator falls outside the cutoff line, they'd have to go through another process to obtain a rating, which may involve an audit or turning down the operator for a rating. This was step one of the process.

Step two of the tactical view process was for the operator to provide ARGUS all information on aircraft, validated under operational control through FAA, and obtain current fleet lists from operators, including insurance information to ensure they meet industry standards. ARGUS also did a pilot check on those pilots trained to fly for operator, and they did an audit on the pilot backgrounds to include past accidents or incidents. They analyzed that information and applied it to the score. They did a yearly independent background check on the pilots and analyzed each event they found, including certificate actions, fines, suspensions or revocations. They could also write reports on an administrative level on ongoing certificate actions since there was adjudication of guilt during that process. If the FAA went for a suspension or certificate action on an operator or pilot, they considered that significant and would get more data on the event.

In summary, ARGUS would first look at the company background, then the aircraft in its fleet, and then the pilot backgrounds. The final phase was to require the operator to continually update that information every 90 days. From all that information, ARGUS could then begin to build a rating on a company. At that point, the company could obtain a Gold rating. There was no audit involved in the Gold rating, but a significant amount of data was scored prior to obtaining a Gold rating. The Gold rating was the basis-line rating that an operator would need to have obtained before moving up in the rating system. It took about 2 years of experience for an ARGUS analyst to be allowed to score an operator, and that was all done through their Denver office.

If an operator wanted to go higher in the rating, they would require an audit of their operation. The audit for a Gold-Plus and Platinum were the same audits. ARGUS audits try and set the bar higher than FAA standards, and those ARGUS standards were established in 2000 and had been

continually updated. The difference between the two higher ratings depended on the result of the audit. If an operator met every part of the standard, they could get a Platinum rating. If 99.5% was met but not all, they still would not be able to get Platinum rating. The Platinum rating required an operator to have a safety management program. If they found a regulatory or safety of flight issue, the rating goes away until they correct that. A Platinum rating meant that an operator met all the standards of the rating system. Some operators cannot or choose not to try for a Platinum rating, whether because of the smaller size of the operation or cost considerations, and those operators seem happy with the Gold-Plus rating. ARGUS had about 12-15 companies that were at Gold-Plus, and had a number of companies in transition working on obtaining a Gold-Plus rating.

Trans-Pacific was never audited since they had a Gold rating, and ARGUS had never done an onsite audit on Trans-Pacific. ARGUS removed their Gold rating after the accident until they could get more information. ARGUS will review the final report on the accident, and also the public docket information regarding the accident. Trans-Pacific's Gold rating was pulled about an hour after the crash, and ARGUS was waiting on the full report on the accident before reinstating its rating.

Trans-Pacific had been updating its required pilot information every 90 days for the Gold rating. ARGUS did review the rating anytime they would get FAA or NTSB information on an operator. Anytime there was a fleet change, the operator was required to send them the changes, but only the pilot updates were required under the 90-day review. ARGUS does not do a criminal background check or previous employment history on pilots as part of its rating reviews.

When asked about the ARGUS Charter Broker rating system, he said operators and brokers themselves both asked them to implement a system. ARGUS was an IOSA auditing entity for a very structured regulatory aviation environment. He said that there was an absence of a strict regulatory environment for brokers. ARGUS went into it recognizing there would be challenges since they recognized that there would have to be a global standard, not just a U.S. standard. The program took about 3 years to jell, and they got together a user group of brokers and users, including BACA (Baltic Area Charter Association), a large London based brokerage company

that had a self-policing standard for brokers. The large user group of brokers included the president and VP of BACA, a DOT transportation manager who was the regulatory entity related to brokers in the U.S.

There was an NPRM about new standards for brokers, but it had been around for 5 years and has not yet been implemented. Instead of waiting for the NPRM and a regulatory answer, the user group talked about best practices, focusing on industry best practices, and they came up with a standard they were comfortable with. It was not something a smaller broker could pass, and was mainly geared toward the larger commercial brokers. It made sense if the brokers were going to be successful. One thing they looked for was whether or not the broker worked from a GOM (General Operations Manual) for its brokers.

JetSmarter was not a customer of ARGUS and not a part of the Charter Broker rating system prior to the accident. Since the event, they had been working with JetSmarter since they did not have a very structured process. The standard also had a lot of business elements that went into it, including a feedback process, and means to vet complaints.

There were two levels of the Charter Broker ratings - a registry level, which included a document review, validating it meets legal and professional requirements of BACA, and meets the standards. If the broker then chooses to go beyond, ARGUS would do an audit. If they meet the standards and pass the audit, ARGUS would issue them a “certified rating”. It was not a true certification from a regulatory standpoint, just an indication the broker met that standard.

There were about 400 to 500 charter brokers in the U.S. There were larger ones, but also several hundred smaller ones, and those were just website/phone guys. In the DOT, while there was a small amount of people to inspect and evaluate operators, the DOT did not have the man-power to do that for brokers. The DOT did not have the means to proactive evaluate brokers, and it was mostly reactive based on complaints. The consumer did not have the means to evaluate the brokers and their business simply based on the brokers website. The DOT did have regulations buried in 228 or 338 regulations, but they did not really apply them when evaluating a broker. That was the reason why there was a need for an officially recognized program for evaluating

brokers. The DOT had issued a regulatory structure that something must be corrected following past accident, for example prohibiting double brokering, etc. Reactively to past accidents, the DOT required all transactions be above board and consumers must be provided information about the entity operating the charter. During his time looking at brokers, he saw a lot of respected entities and brokers that were not complying with simple basic practices of the industry.

Unfair and deceptive practices were looked at by the DOT, but there was a need for the new DOT air charter broker regulations to be published. BACA was also in favor of the new regulation in the U.S. in an effort to be proactive in the industry.

Broker entities are defined in the regulations. The DOT part 380 authority covers travel agents, and they can then hold out and buy and sell lift as their own but still must list operational control. Most brokers like JetSmarter do have the authority under the DOT to buy and sell “lift” as if it were their own. They still must list the person with operational control, but most brokers (about 15-20 total). There is also a “true middle-man” entity where a broker can negotiate directly with an operator. That is very rarely used. Then there is “agent of the operator” that means you can go to a database and select operators to operate on your behalf. It is essentially marketing arm of the operator. The other is “agent of the customer” which is where 99% of the brokers are. It is where a broker operates on behalf of the customer, and the broker negotiates the charter with operators directly. The DOT expects the percentages of the money is above board. The guidance for the DOT was written many years ago and not fitting the market today, which is why the DOT came up with the concept of the air charter broker which would cover everyone and basically give the broker “principal- like authority” to hold out trips under certain conditions and help streamline things.

When asked if FDM’s (flight data monitoring systems) played a role in rating evaluations, he said they had have another silo called PRISM which look at enhanced safety management systems. It was looking at another list of initiatives, and the idea was that the more data an operator could provide, the better their evaluation could be. It probably dealt at bigger operators

first who can afford those systems. He said ARGUS would like the FAA to require safety management programs for 135 operators.

When asked if an operator saw a benefit in their rating evaluation with an FDM system installed on their airplanes, he said they did not get any benefit through the system yet, and absence of one would not preclude an operator from qualifying for a rating. Another thing they were looking at was enhanced pilot training. For TripCheqs, they looked at experience requirements of the pilots, and if going through advanced training, they were looking at an algorithm to credit operators with that information. In some cases, they allowed pilots to qualify at a lower flight time based on their training, i.e. through military or university program.

ARGUS was not saying an operator was safe through their rating system, just that they met the requirements of the rating. A customer then could run a TripCheq prior to the actual flight for a more tactical view of the operator.

Regarding FDMs, some operators had them, but it was mostly the larger operators. PRISM saw it was the larger Part 91 corporate operators, followed by larger Part 135 on-demand operators. Smaller operators may have an FDM, but likely because it was a managed aircraft flying for a corporation.

Interview concluded at 1415.

20.0 RECORD OF CONVERSATION - Patricia van der Velde (mother) and Ann-Marie van der Velde (via telephone)

By:
David Lawrence
Aviation Safety Investigator
Operational Factors Division, AS-30

Date: November 7, 2017

Person(s) Contacted: Patricia van der Velde (mother) and Ann-Marie van der Velde (via telephone)

NTSB Accident Number: CEN17FA183

Narrative:

The following is a summary of a conversation that occurred with the Van der Veldes:

- Anne-Marie said she booked the charter but did not fly on it. The passengers were her mother (Patricia) and two brothers who were traveling for a charity golf event. She had verbally told the charter company that there would be 3 passengers.
- Anne-Marie said her brothers told her it was extremely windy that day.
- Anne-Marie used her account with JetSmarter, the charter company, to book the flight.
- The charter was for only the BED to PHL leg, and was not for a return back to BED.
- They heard about the accident on the news, and then called JetSmarter to express concern since her brothers had mentioned a hard landing in Philadelphia.
- Anne-Marie booked the flight with JetSmarter, and then that company would go out and find an operator to fly the charter.
- Anne-Marie said that one of the benefits of being a JetSmarter client was that she could book the charter, but did not have to be a passenger on the flight.
- The charter company did not have the information on the 3 passengers when they showed up in Bedford, and there was a delay as the pilots checked their ID's.
- Patricia said they were supposed to be at the airport about 8:30am to 9:00am, and it was driving rain at the airport. The pilots got the luggage for them, went into the terminal then returned to get their driver's license information and passport information.
- About 10 minutes later, the pilots met them at the plane, and it was still raining. About 40-45 minutes later they were flying into PHL and they were coming in very fast.
- After landing, the youngest pilot told them they would be flying back to TEB.
- Patricia said both pilots were very nice and polite.
- Patricia said the pilot's demeanor was very professional. They did comment to the pilots about the arrival into PHL coming in fast, and the pilots said it was due to the wind.
- Patricia said it was the first time she had seen or flown with either of these pilots, and typically flew on a friend's airplane who used a regular set of pilots.
- Patricia said the pilots were respectful, dressed in uniform, and did not appear tired. Their total interaction with the pilots was maybe 5 minutes total.
- Anne-Marie said that all her interaction with JetSmarter as a client of the company was via an online app when booking flights.

21.0 Interviewee: Murphy van der Velde - Passenger

Date/Time: November 7, 2017, 2017; 1320 CST

Location: via telephone

Present: David Lawrence, Bill Bramble - National Transportation Safety Board (NTSB)

Representative: declined to be represented

During the interview, Mr. van der Velde stated the following:

He said he and his brother were not pilots. He said he flew privately 2-3 times each month, and his brother flew about 100 times a year. They arrived for an approximately 0900 flight leaving Bedford. His limo driver had an SUV and took them out to the tarmac. The flight was going to leave and there was a little delay because they were not on the manifest. His sister was a member of JetSmarter and was going to come but did not end up going with the two brothers and mother on the flight. The pilots did a 10-15-minute TSA background check before the pilots came back to them. It was very rainy and inclement weather since a heavy front had come through, and it was affecting them in BED with traffic control around their destination of PHL.

The original plan was to fly from BED-PHL and PHL-TEB later in the day. They sat on the ground inside the FBO at BED for about 30-45 minutes with the crew. He could not remember the pilot's names, but they spoke briefly, and learned that they were from out west and had flown in on a different charter company. He characterized it as a nice conversation. The younger pilot was much friendlier than the captain, who was more quiet and reserved. He learned one of the pilots was from NJ.

Their driver of SUV sat with them in the FBO since it was raining pretty hard, and they then all piled into the SUV, along with the pilots, and drove out to plane and boarded. He thought the airplane was a Lear 45, and it was an older airplane. He had flown on JetSmarter charters before and they're typically nice planes, but this one seemed like they had been "pulled it out of mothballs" since it was worn inside and "probably past its shelf life."

The taxied and took off with no problems. The flight was turbulent as they flew through the front but the forecast all day was the front from the northeast to PHL would clear out, and it was clear skies when they landed. He said the landing was one of the scariest he had ever experienced. As the front came through PHL, there as pretty strong winds behind it and the weather was moving through pretty fast. He had flown into PHL before and they always landed on a different runway than the big jets used. This runway was shorter. The wind was from west and they were landing more to the northwest. When they were about 5 or 6 feet off the ground, the plane felt like it fishtailed as if it was a car on ice. The tail fishtailed so much he thought at one point they were going to land at 90 degrees to the runway. His brother sitting next to him grabbed his hand on the armrest and was like "holy cow, what the hell was that." They landed and then got off the plane. They went into the bathroom, getting ready to get in the car, and his brother looked at him and said, "I don't want to fly on that plane anymore." They both looked at each other and "said let's drive up to TEB." They did not want to have to go through that again since it was unnerving. They told the pilots they were just going to get in the car, go play in this golf tournament and then drive up to NJ and "you guys do what you gotta do." An hour or two later he saw on one of the news apps that said a small plane crash in northern New Jersey. That night his brother said to turn the news in New York and they saw the red tail of a plane embedded in a hangar or warehouse outside a runway and they knew the tail number and learned that it was the airplane they had been on.

He said they interacted with the pilots, but did not remember if they said anything to them about the landing other than it was kind of “hairy.” If they answered, it was a benign conversation and they did not elaborate. They made no comment that would have told them why it was hairy. They did not interact with the pilots prior to the flight any more than the pilots just turned around and made sure they were comfortable, and told them they would have turbulence as we went through the front. They did have an interaction with the pilots when they flew over Atlantic City when they thought they saw Air Force One taking off, and his brother may have gone to the cockpit to ask if the airspace was closed.

When asked about his impressions of the pilots, he said the younger pilot was friendly, and the other one was older, the more senior of the two, and he thought they may have been in white shirts. He was not sure if they were wearing full uniforms since it was inclement weather in BED and they had rain jackets over the top of their clothes. The older pilot was not friendly at all, and he would go so far as to say unfriendly. He said his brother could talk the bark of a tree and they were chatting in the FBO with the pilots, and the younger one engaged in conversation but the older one had none of it.

They did not appear to be under pressure to get the flight completed, and there was not really a rush because of the TSA clearance and the weather issues, and there was nothing they could do about that. They were going to a golf tournament but had given themselves plenty of time to get there. He said the pilots were supposed to wait for them until later in the afternoon.

When asked about a return flight, he said the golf tournament was at 1100, finishing at 1630 with a cocktail party after, and they planned to be on the road 1715 or 1730 and to the airport a little before 1800 for an 1815 departure. He said the pilots were going to have a pretty good chunk of time that they were going to be hanging around.

He said they had planned to return with the pilots, but then his brother and he looked at each other and said that they did not want to take another flight on that plane. It was not that nice of a plane, and the landing in PHL was about as scary as he had ever experienced on an airplane. It happened so close to the ground, and felt like they were 10 feet off the ground although they may have been 30 or 40 feet off. The first time the pilots found out they would not be returning with them was when they came out of bathroom and told the pilots “don’t wait for us.”

He did not have any documentation regarding the charter, including the tail number of the airplane, since they relied on their sister to contact the charter company’s service representative.

He said the pilots appeared rested and fit for duty. The older pilot was a “low energy guy” and kept to himself. They appeared alert for the morning flight. The younger pilot had a fair amount of energy, and he would say that neither pilot look tired or mentioned anything about feeling tired.

He characterized the fishtailing on landing as a yaw with a crosswind. The wings moved a little bit, but they had the sensation of the tail fishtailing. It was a sudden motion, which is what scared them so much since it came out of nowhere. They corrected the yaw during the landing once they got on the ground. The pilots righted the airplane to an extent, but it was not a smooth

landing at all. It felt like the plane really straightened out when they touched down. It was a rough landing, but they had no sense that they were getting pushed sideways.

He did not recall the name of the company operating the airplane. He did remember seeing it when we were on the plane, and there was a certification document on the plane that had a lady's name from a building corporation out in Montana. They asked the pilots about the company and he thought it was the older pilot who said the company was owned by a lady in Montana and a group that had a consortium that owned three or four planes they put out for charter, and they had made a flight in this plane out from the west. The pilots said they typically flew in the west, but younger pilot was fired up to be back home in Teterboro and be with his family that night. The pilot's mentioned that they had come on a west to east trip a day or two before.

He said the older pilot in the left seat was the pilot flying the airplane from BED to PHL, and he could tell that since he was close enough to the pilots and it was apparent he was flying the airplane. The younger pilot was in the right seat. He could not hear any ATC communications over a speaker in the cockpit, and could not hear the two pilots interact during the flight.

Interview concluded at 1410.